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CURRENT ECONOMIC AFFAIRS

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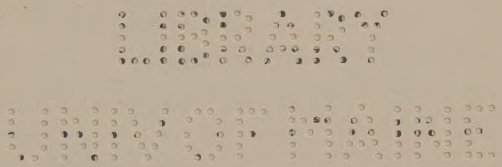
By

WALTER RENTON INGALLS, S.B., D.Eng.

Author of Wealth and Income of the American People



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PREFACE

This book is mainly a collection of addresses and papers that have previously been delivered and published. Many of them were originally published in *Mining and Metallurgy*. The paper on the "Distribution of Wealth in the United States" appeared first in the *Iron Age*. Several of the papers, however, are new.

As a collection of addresses and papers primarily prepared with no idea of republication in book-form there is naturally more or less repetition in them and a good deal of lack of coördination. If allowance be made for these faults there will be discernible, however, a certain continuity of thread and thought, which lead indeed from my earlier work on the "Wealth and Income of the American People."

In the present papers I have made the first serious attempt to study the distribution of wealth among the classes of people in the United States, and in so doing I have been completely destructive of a fallacy that has been of powerfully harmful effect upon our public policy and will continue to be so if the exposure of it be not generally made known and recognized. The idea that about 65 per cent of the wealth of the country is owned by about 2 per cent of the people is the foundation of the principle of "soak the rich" in our system of taxation. The truth is no such thing. My constructive work on this subject is rough. I hew with an axe, but I am confident that I shape the thing correctly in a general way. Such a problem is no fit subject for meticulous work with a jig-saw.

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In my two chapters on American production, consumption, and scale of living enjoyed by the people I have also entered a new field with iconoclastic hands. The commonly prevailing idea is that during the last 10 years the people of the United States have advanced greatly in their production and consequently their general scale of living. In earlier papers I have expressed doubt respecting these conceptions. The prevalent ideas did not appear to be supported by the collateral evidence. In the new papers I feel that I have gone a long way toward establishing the contrary. Should we just emerging from a war, that was stupendously costly and wasteful even to us, expect anything otherwise?

In 1919–20 we had a false boom. In 1920–22 a very real and intense depression. In 1922–23 a sharp revival. The study of the depression that was undertaken by the National Bureau of Economic Research for Secretary Hoover's committee was finished after the revival was well under way. The doctrine of business cycles was elaborated in it. In reviewing the work I submitted the following words of warning, which I think it well to reprint here:

> As one of the directors of the National Bureau of Economic Research I approve the publication of the report on "Business Cycles and Unemployment" as it has been submitted to me in manuscript, in common with other directors of the Bureau. I feel constrained, however, to append a note to the effect that the study of conditions and events that has been made does not give adequate attention to fundamental economic motivations that are beyond control. I refer to such things as broad national enterprises that may prove to be mistakes, to deep rooted and widely extending alterations in the conditions of production and consumption, to general wars, and to changes in social conditions.
>
> In illustration of my meaning I cite too premature building of railways in the West of the United States, the greatly increased production of silver by fortuitous discovery and improvements in the arts of mining and metal-

lurgy that led eventually to the demonetization of silver, the Great War of 1914–18 with its consequential economic dislocations spreading all over the world, and the social disturbances and changes which confront us now. It is important not to confuse ordinary business cycles with the irregular undulations following some great upheaval of such nature.

The Great War of 1914–18 produced an economic cataclysm that enmeshed almost every human being in the civilized world. There will be no dissent from the statement that the world has not yet passed out of its shadow. It seems to me to be highly dangerous to convey any impression that the United States in 1921 simply passed through the depression of an ordinary business cycle.

The war of 1914–18 was not only immensely destructive of wealth and life, of systems of finance and of economic equilibria, but also it produced a new state of mind in all the people of the world, which finds expressions in the unwillingness to work and the thought that living may be enjoyed without it, owing to the experience of something that looked like that during the war. And along with this there was an extensive destruction of the principle of authority, which the masses of people had previously accepted for their guidance.

I wish that I had felt inspired to elaborate my chapter on the eight-hour and twelve-hour day. There is a great deal of documentary evidence from all of the principal countries of continental Europe that might have been cited and quoted more extensively. Whoever cares to dig more fully into this subject may easily do so. It is mainly of the same order, however, and to the same general effect and repetition of it would be wearisome. In the great post-war evil of shortening the hours of work I find the explanation of much of the failure of economic revival abroad and there is much reason to surmise that America is suffering from the same trouble, though of course much less acutely than Europe. This subject is associated in the closest ways with those

of national production, general scale of living, and thrift.

I have in these papers made many references to classes of people, *e.g.* the capitalistic class, the wage-earning class, etc. These are not, of course, with any intention of making social distinctions, but rather of showing differences in economic interests. The wage-earner is a capitalist in so far as he owns property and he may cease to be a wage-earner at all. Oppositely, the property of a capitalist may vanish and he may be constrained to become a wage-earner.

I find no fault with any class of people for deliberately producing the bad situation that now exists among us. It simply developed because it had to. The correction will be similarly inevitable. I believe that all of our people are equally patriotic and are equally concerned in the national welfare. The desire of some for the maintenance of present evils is attributable to ignorance more than to anything else. Many persons who have tasted new luxuries feel that they have but acquired what is due them. With equal thoughtlessness they would vote a great bonus to the ex-soldiers. It is not to be expected that the millions of our people can work out for themselves the complicated economic conditions that have produced a phantasmagoria, or understand them, or foresee whither they are leading, *i.e.* to hard times that will be nature's corrective. It is, however, the duty of everybody who thinks, to give attention to these subjects and out of their intelligence to promote clear thinking by others and thus contribute toward amelioration.

Walter Renton Ingalls.

115 Broadway, New York,
Oct. 1, 1923.

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CURRENT ECONOMIC AFFAIRS

CHAPTER I

PRACTICAL ECONOMICS OF THE PRESENT DAY[1]

When I was a boy, political economy was taught in the old fashioned New England high school that I attended. I still possess my text-book, an abridgment of one of the old classics, and I referred to it a few days ago. It began with the definition that "political economy is the science which investigates the nature of wealth, and the laws which govern its production, exchange and distribution." That definition of 50 years ago strikes me still as being a good one.

In college I sat under Francis A. Walker, the greatest of American economists. I still have his old text-book, which begins with substantially the same definition as Fawcett, but adds that "political economy has to do with no other subject, whatever, than wealth."

As so developed economics was a dry study which captivated but few. It was characterized as the dismal science. It seemed to lead nowhither. This was perhaps due to the inadequacy of the data available to economists. Consequently, their discussions and deductions were founded largely on conjecture and assumptions. Naturally this resulted in differences in

[1] An address to the Bridgeport Engineers' Club, at Bridgeport, Conn., May 16, 1923.

the formulation of doctrines. There were controversies respecting the nature and influences of money, over the derivation of wages, over the principles of *laissez faire* (letting things take their own course) over the Malthusian doctrine, and so forth. Amid all this there was one great basic law universally recognized, namely the law of supply and demand, which ranks with the law of gravitation and the law of the conservation of energy among the great fundamental laws of nature. The law of supply and demand is the one thing in economics upon which we may fix our eyes as upon the lode star.

In the course of time we have fallen out of agreement with Walker's doctrine that political economy has to do with no other subject than wealth. Although it is indeed the science of the production and distribution of wealth we can see that many things pertain to that subject and that economics links hands closely with engineering, biology, and psychology. It is probably the recognition of this that caused the study and exposition of economics to acquire such a strong sociological note 20 or 30 years ago and produced an immense volume of literature that is even more conjectural and controversial than the classicism of the middle of the 19th century.

During the last decade economics took another turn, this time in the direction of quantitative studies. The economist then began to grasp hands with the statistician. The economist began to be a statistician and the statistician began to be an economist. The war gave a great impetus to this. We learned then acutely and fully the need for quantitative information, we acquired increased facilities for getting it and we became accustomed to think internationally and in

terms of billions of dollars. We began to grope for the outlines of the big national and international pictures. For the first time in its history economics began to be a human science.

Under the classicists economics was dry and bloodless; it was indeed a dismal science. Under the sociologists it was unconvincing; there was always doubt whether the academic writers from jerkwater colleges knew what they were talking about. When we began to talk about facts and their bearings upon immediate affairs, when we began to connect with economic laws things that directly concern us, the intelligent public commenced to sit up and take notice. Cassel, who is one of the outstanding figures among the European economists at the present time, has said that we ought to scrap the most of our old economic literature and begin all over again on the basis of facts. I think that this is going too far, but nevertheless there is much truth in the underlying idea.

The interest in quantitative economics rests upon the thought that this knowledge is teaching us how to conduct our national affairs just as the well-managed family directs itself, just as the corporation controls its business. The affairs of the nation are the aggregate of the affairs of about 27½ million families and they are about 10,000 times greater in magnitude than those of a 30-million dollar corporation. We have been conducting national affairs heretofore without much fundamental knowledge, which is very much the same as if a corporation tried to run itself without a balance sheet and a statement of income and outgo. This has led to terrific mistakes in national policies since the war. Among these was the fixing of the

indemnity upon Germany without any rational consideration of the amount of Germany's wealth and earning capacity. Another mistake that is being made from the absence of knowledge is that which is going on now in the United States on the basis of the preposterous idea that this country grew rich out of the war and that a relatively small class of the people profited especially.

We must find it easy to forgive such mistakes when we consider that they are made in ignorance and that it has been only within a few years that anybody has undertaken to make estimates of national wealth and income. Recognition of the merit of such studies is still confined to relatively few people. It has not yet begun to permeate among the great body of the public. It is not enough merely to make these studies. It is important that they be made in a way to command general acceptance as being of indisputable nature, and having arrived so far it is next in importance to broadcast them so that they will be generally known. Finally, the facts must be properly interpreted.

My friend, Dr. B. M. Anderson, Jr., economist of the Chase Bank in New York, was the first to undertake an annual estimation of the national income of the United States, which he did during a series of years in articles published in the *Annalist*. As we look back in the light of superior knowledge we find that Anderson's estimates up to 1916 were superb. In 1916 he went astray owing to the disturbance of his method by the chaotic economic conditions that began to develop strongly during that year. I made subsequently an estimate for 1916 by a totally different method, which was eventually proved by others to be

correct. What Anderson and myself were doing, however, carried no weight, not even among economists and engineers, outside of the very small circle who knew us personally. Even among economists, bankers and business men, if they paid any attention to our work, the idea was probably that we were merely guessing and that our guesses were no better than those of anybody else. I introduce these personal references to illustrate the importance of organized study as a preliminary to general acceptance. It remained for the National Bureau of Economic Research to take up this study and produce authoritative results. The National Bureau is now better known as the reporter of the national income than it is by its corporate title. It reviewed the national income for a period of 10 years backward. It substantially confirmed Anderson's estimates for the years previous to 1916 and checked with mine for 1916, but whereas Anderson and I were unheard voices in the wilderness the Bureau could speak with the authority of collective investigation. The Bureau was able to speak with unusual authority, owing to its unique organization, which requires the findings of its research staff to be reviewed and approved by a large board of directors, comprising all colors of economic thought. Thus, its income studies were approved and accepted by the representatives of such widely different viewpoints as those of the nominees of the American Engineering Council, the American Bankers Association and the American Federation of Labor. As a member of this board I am able to say moreover that its examinations are in no wise perfunctory and I know that the research staff has a very wholesome respect for the board of directors.

I have personally made studies of the wealth of the United States, and I believe that outside of the census reports on this subject I am the first economist to undertake this work, anyhow with great detail and with critical analysis. My approach to the subject was wholly from the engineering standpoint. My presentation was not only a challenge of the accuracy of the census estimates for previous years, but also a representation that the national wealth can not be reasonably estimated by census methods, either past or present, or probably of the future. Dr. W. I. King subsequently made estimates on this subject which were published in the Journal of the American Statistical Association for September, 1922, and which differ from mine. This is a good illustration of how such a subject needs to be threshed out. It will be taken up by the National Bureau some day and eventually we shall have its quasi-judicial pronouncement.

In the meanwhile, however, we may assume that we now have at least an approximate idea of the national wealth, and a positive idea respecting the national income. These are naturally the fundamental things in any consideration of our national affairs. They are of the nature of a corporation balance sheet and income statement. The possession of knowledge of these subjects has already been of inestimable benefit, and in two main ways, as I shall proceed to point out.

In the first place, the possession of knowledge of the amount of the national income has given us a yardstick with which to make many comparisons that previously were impossible. Now that we are able to make such comparisons we are getting many salutary shocks. For example, we are shocked to discover

that our present cost of government is somewhere between one-eighth and one-sixth of our total income, and this discovery is focusing public attention upon the importance of economy in public expenditures.

But it is our present knowledge of the amount of the national income and the division thereof between the wage earners on the one hand and property and management on the other hand that has been of the greatest importance. It is true that we previously possessed knowledge on this subject that was convincing to the engineering mind. Mallock had shown us that in the economic history of Great Britain the benefits of invention and managerial organization had mainly accrued to the masses of the people. Bowley had shown that in Great Britain the major part of the current income accrued to the wage earners. I had shown the same thing with respect to the United States in my study for 1916, proving conclusively to any scientific mind that about 75 per cent of the American income, other than agricultural, went to the wage earners. Here was another case of economic prophets to whom no special attention was paid. Such as might have been given to us was passed away with the explanation that we were the partisan exponents of capitalism. The prevalent idea expressed among professional representatives of labor was that labor received a mere dole out of what it produced, 25 or 30 per cent, and that it ought to get a fairer share. Pink socialists, members of the Fabian Society, and philanthropologists generally supported this contention.

Then came along the National Bureau of Economic Research, organized as an impartial fact-finder, and with respect to the United States substantially con-

firmed the findings in my study for 1916. This put this matter outside of the bounds of dispute.

Now let us think of the supreme importance of this establishment. Consider what it has done, and this is a perfect illustration of the reaction of quantitative studies upon the whole field of economics. It has felled the whole Marxian philosophy. It has confirmed in the main the economic doctrine of the residual claimancy of labor as expounded by Jevons and Walker. It has dispelled all fallacies about a wages fund and has affirmed the theory that labor gets what it produces, and that by no possibility can it get any more than it produces. It has exploded the recent contention for a living wage, so called, and the arbitrary guarantee to people of a desired scale of living. On this subject, we have literally backed the labor leaders off the boards. W. Jett Lauck, one of the leading economic exponents of the labor organizations in a recent public communication practically admitted this, receding to the ground that the principle of the guaranteed living wage should be upheld only with respect to a part of the workers, which he explained would not cost very much and therefore would be practicable. Listen to what he says, which was as follows:

"Although the last census reported some 41,000,000 persons in gainful occupations, only about 17,500,000 were adult male workers to whom the living wage principle would apply."

Can you conceive of anything more raw, more brutal and more cruel than this idea of giving to less than half of the workers of the country all that they want and letting the majority go hang? I think that when we have driven the labor leaders to this point and have

got the news of it across to the public we shall have accomplished a great deal.

Our present organization of life is so complex that the most of the people are unable to think in anything but terms of money, having no conception of the fact that money is nothing but a counter and that what really matters is the goods that we need. The farmer who is supporting himself out of the land and does not raise enough bushels of potatoes, wheat and corn to feed the hungry mouths for which he is responsible is under no illusion that the rest of the community ought to make good his deficiency out of its produce. Yet it is just that which town labor is demanding, and it has so arranged things that to more or less extent it is exacting its demands. Carry this thing to its logical conclusion, the youth starting out at $15 per week may marry and expect the community to make up for the rest of his living costs. The whole conception is absurd.

I am going to digress here in order to point out what seems to me to be a great danger in our present enthusiasm for quantitative economics. We have been captivated by the idea and we are seeing in it the possibilities of not only managing our national affairs in a better way but also the possibility of bringing about increased equilibrium in industry, which is plainly a desirable thing to accomplish. The danger in this is that we shall try to do too much and may act upon incomplete information. I see in this the great hazard of what the Department of Commerce is trying to do, although I fully agree that its motives are most commendable. However, we have lately seen it in an imbroglio over the matter of sugar statistics and we have sometimes seen the Department of Agriculture in trouble over its

crop statistics. Now, with a rather extensive experience as a statistician, let me say that I view the mere statistics of commodity production and stocks in first hands as being of very superficial character, and I consider superficial statistics to be about as safe as gunpowder in a room where a lot of boys are smoking cigarettes. I know a house in the metal business that is longer trained in the use of statistics than any other, and I have had in mind the words of directors of that house, dating back many years, that when statistical indications and experienced sentiment are in conflict sentiment is the only safe horse to back. This might look like a repudiation of the value of statistical information, but it is not so as I shall immediately show you. We have had during the last few months a series of brilliant zinc statistics, yet the price for spelter has steadily slumped in the face of them. The reason for this is that discerning minds have been able to look through the statistics, which are but superficial, and see underlying conditions that are to the contrary; wherefore there has been a bearish sentiment in spite of bullish indications and the seeming paradox of statistics and sentiment in conflict. But if we had complete statistics there would be found without any doubt to be no conflict whatsoever. I hope I have made my point for I am going to try to develop some important ideas from this thought.

On the face of the great mass of statistical data that I consider to be superficial we are being told that the United States at the present time is in a condition of great prosperity. The president of a large corporation, a thoughtful and intelligent man, asked me a few days ago if I did not agree with that conclusion. I replied

"No." I asked him if he thought that the farmers were prosperous and he answered "No." I asked him if he thought that the white-collar classes were prosperous and he answered "No." I asked him how then could it be pronounced that the country is extraordinarily prosperous if classes comprising about 50 per cent of its population are admittedly not so.

I do not think that we are having any such thing as prosperity in the United States at the present time. If for "prosperity" you substitute the term "activity" I will assent to the declaration that we have been having a great deal of activity. Now, we might conceivably institute a great building of pyramids as they used to do in Egypt, and we should have great activity in the production of stone and cement; also in metals if we saw fit to use them for ornamentation; and in many quarries and factories for the production of these things and on the railways for transporting them. We should have great activity in such circumstances and should get poorer in the process. We cannot reasonably hold that the process of getting poor has any connection with prosperity.

I have rather a clear idea that something of this sort is going on in our country at the present time. I conceive that we are building too many automobiles instead of developing our railways; that we are building garages instead of houses. To make an economic expression we are creating too much of consumption goods and not enough of capital goods; and we are letting our existing capital goods wear out.

When leading exponents of commerce and industry exhibit misconceptions on this subject, sincere without any doubt but based on superficial data, they do an

immense amount of harm. It is they whom I blame most, rather than the labor leaders whom we view as creating all kinds of trouble for us. If financiers and captains of industry, who are supposed to know about such things, tell the people that we are in a state of great prosperity why should not the workman get all of it that he can? What does he know about such things as economic unbalance? I am convinced that our affairs are not going to be put in order until something like the old economic balance is restored, but we are going to have a mighty hard time in bringing this about so long as our own colleagues are betraying us out of their ignorance.

It seems to me strange that any intelligent person, much less than being a victim of happy fallacies, can fail to be impressed by the horror and cruelty of the present situation. Town labor is simply sweating and eating up agricultural labor. Among town labor there are some classes that are eating up other classes. The white-collar classes are the great victims, but many of the humbler workers with their hands, such as many in your own factories, many charwomen, etc., are also the victims of the aristocrats of labor who have been having their own way. It is only common sense to understand that when bricklayers, carpenters, and plasterers get fantastic wages the cost of building houses is increased and consequently the rental of houses. If the building mechanics by reason of their princely rewards do not work so hard as formerly, and this is but human nature, with the result of fewer houses, the situation is aggravated. This reacts upon such people as are working in your factories, indeed more so upon them than upon anybody else. The building mechanics

are not skinning the rich to any great extent. The rich after all are relatively few in number and do not need many houses. It is the poor who mainly suffer. When they get this into their heads they will begin to see that federated labor unions are not all that they have been cracked up to be. Their policy is not one for all and all for one, but rather is it all for a few and the devil take the rest. The farmers also will begin to see that alliance with labor, which labor is so keen about effecting, is about as preposterous as a marriage between a lamb and a wolf. The farmers' animosity has been directed against Wall Street, but if the farmers could get the dust out of their eyes they would ally themselves with Wall Street rather than with organized labor.

I have brought out these points so often that my hearers may well be wearied by my repetitions, but it is by iteration and reiteration that we fix ideas in the minds of people. I am going to quote on this subject some fresher and more graphic words than mine. Frank Mann, Tenement House Commissioner of New York, declared a few days ago that there is no immediate prospect of low rents for the average wage earner. Despite the building of 167,375 new apartments in New York during the last three years, under the stimulus of tax exemption, the city gained but 13,182 in its housing capacity, 154,000 having become obsolete and having been razed in the meanwhile. Even the bonus of tax exemption has been absorbed by building labor, which in complete analysis now constitutes 85 to 87 per cent of the cost of building. Mr. Mann proceeds as follows:

> Thus a condition has arisen whereby some classes of wage earners are surely reaping the profits of tax exemption, while the rising cost of living, due

to this increase in the cost of materials and labor, is just as surely causing other classes of wage earners untold hardships and rendering them more and more apprehensive of the future. The "white-collar" element of our wage earners was never, relatively, so poorly paid. A silent and bloodless revolution is taking place in this country, the consequences of which appear to accrue to one class of labor, to the disadvantage and discouragement of another class. The benefits derived by mechanics and laboring men in the building trades, through higher wages, must be paid by wage earners in other industries by higher rents and higher costs of living generally because of the high cost of building construction.

Consider, now, if you please that the City of New York has about 5 per cent of the total population of the United States and that its total number of dwellings is about 1,000,000 out of the 20,000,000 in the country other than those on farms. A fairly large statistical sample, is it not? Municipal transportation in New York is strained to the breaking point. The whole system of railway traffic in the country is on the verge of cracking. During recent years the railway companies have been spending only four or five hundred million dollars per annum on their plant. They need to spend a billion dollars per annum in terms of 1913 dollars for mere maintenance. Considering these conditions is not the chatter about unparalleled national prosperity idle and ill-conceived?

How is the inevitable economic readjustment going to come about? Frankly, I do not know. Four years ago I thought it was going to come about through common-sense, through patriotic and intelligent leadership. Up to a year ago I thought that things were working in that way, although temporizing factors had come into evidence. From far back I had foreseen 1922 as a year of great labor troubles. I expected that they would end by putting us well ahead in our necessary readjustment. As you know, they did not

work out in that way. We have got to have them again. Whether this will be in 1924 or 1925 I do not venture to predict. I foresee however that we must have adversity in order to bring about correction, and instead of deploring it we ought rather to welcome it, hoping of course that it will be slow and grinding, giving everybody a chance to adjust himself, rather than being acute.

We must pray for disinterested and intelligent leadership. We must learn to become acquainted with the facts and then to face them. The inspiration is not going to come out of the masses. It must come from the intelligent few. The psychologists have proved to us beyond peradventure that the great mass of our people are of insufficient intelligence to enable them to appreciate economic problems. The psychologists have proved to us moreover that the masses can never be raised by education or otherwise to such degree. The biologists have shown us that ideas of the beneficent influence of good environment are fallacious and that heredity is determinative. Indignant philanthropologists have risen in anger against this as being a repudiation of the principles of democracy. They do not know what they are talking about with respect to this any more than they usually do with respect to anything else. Instead of being undemocratic the differentiation of opportunity and rights is a necessary corollary of the truly democratic ideal. The biologists have shown us that very many of the recent sociological ideas have been opposed to the working of the great natural law of the survival of the fittest. These thoughts exemplify the ways economists lock hands with psychologists and biologists.

I scarcely need to tell engineers about their own connection. If it had not been for engineers we should have a scale of living at the present time no better than that of the Chinese. The English-speaking people would be no further ahead than they were during the reigns of the first two Georges. The whole hope of the future depends more than anything else upon what we engineers are going to do. It devolves upon us therefore to have a clear vision of economic principles and we must show that we are sound in order to get the public to listen to us while we accept the responsibilities that are put upon our shoulders.

CHAPTER II

THE EIGHT-HOUR AND TWELVE-HOUR DAYS

Much discussion has centered upon the hours of work by wage earners. In the United States there has been a general reduction of weekly working time during the last 10 years, and many industries have been put upon the basis of eight hours per day, although this is still far from being universal. Recently there has been a strong and successful movement for the abolition of the 12-hour day which still prevailed, to a relatively small extent, in continuous industry. In Europe, under the inspiration of the League of Nations and idealistic or socialistic principles, the work-day of eight-hours has been made statutory in many countries. There has been, and continues, therefore a common movement to escape the confinement of working for employers and come into greater enjoyment of the luxury of leisure, although indeed there are many instances of men who want to work more in order to earn more.

It may be idealistic that man should be required to work only eight-hours per day, or only six hours, or not at all, so that he may have much time for enjoyment and culture, devotion to his family, the cultivation of home gardens, etc. There is room for voluminous discussion upon this subject. Psychologists may point out that the majority of men are incapable of cultural development, either now or ever. Biologists may suggest that ease in life promotes the multiplication of the unfit and

historians may add that the most virile peoples have been those who have been constrained to work hardest, contending against adverse conditions. Philosophers may remark that human nature seems to make men and women congregate in cities where there is no opportunity to cultivate home gardens. The simple economic consideration, however, is whether a people, whose living must come out of production, can radically and suddenly shorten its working hours and still produce enough for its needs. The economic theory of the residual claimancy of labor would at once give a negative answer to this, with the reservation that great improvements in methods of production might make it possible; but engineers and entrepreneurs if asked respecting such improvements would answer: "Probably, but not quickly; certainly, not right away." Psychologists, biologists, historians and philosophers might then unite in the polite inquiry whether the consequential prolificness in human breeding would not tend naturally to keep conditions much as they were previously.

It has not been until recently that there has been economic evidence respecting the effects of shortening of work hours by a people as a whole. Since the end of the war some of the European countries have furnished such evidence to us. Among these is Germany. In another paper, of not long ago, I mentioned that although the rate of employment in Germany had been high ever since the Armistice the efficiency of work had been low, and I attributed that to several evil factors, among which the general eight-hour day was prominent. Statistical evidence is positive to the effect that German production continues below the pre-war rate. This is not only the deduction of observers at a distance, but

it is confirmed by the opinions of German industrial leaders. Thus, Dr. Carl Friedrich von Siemens, a member of the German Economic Council, recently declared that German production had reached only 70 per cent of the pre-war volume, in explanation of which he assigned firstly the operation of the eight-hour day, secondly a diminished intensity in working as a consequence of socialistic infection, and thirdly the increase in unproductive labor following the extension of the principles of state socialism.

The statistics show that Germany has been importing more goods than it has been exporting, wherefore the simple deduction that the German people have not been even earning their own living. Here again we have German confirmation in the form of a declaration by Hugo Stinnes that the German people must work 10 hours per day, instead of eight, for the next 10 or 15 years in order to be able even to exist. Socialists see in such a declaration a project for the further "exploitation of the proletariat" and assert that "between Stinnes and the eight-hour day we will stick to the latter." Here we have a clear-cut issue between the practical and the impractical.

The eight-hour day has been introduced in many industries in the United States without any harmful results, and possibly with benefits in some instances. Apart from the social benefit, however, there has always been doubt whether diminution in production has not been averted only by an increased counteracting effect on the part of management. There has never been any exhaustive study of the effect of reduction of working time from 10 hours to eight hours in an industry that is incapable of mechanicalization, at least not so far

as I am aware; and until we began to get these reports of European experiences we never had any data as to the consequences of the eight-hour day *en masse*. A dispassionate analysis of the situation that has been produced in Germany has been given by Doctor Hoffmann, director of the Chamber of Commerce of Minden, Westphalia, in a book entitled, "Working Hours and Production in Germany after the War." It is written apparently without bias, and admits evidence that in certain branches or in certain production conditions the eight-hour system has done no harm. But, on the whole, the judgment is highly unfavorable.

Some of the sharpest criticism of the eight-hour working day, Doctor Hoffmann points out, comes from labor leaders and even from Socialists. An old enthusiast for eight hours and a strong Socialist, ex-Minister Doctor Mueller, lately wrote that "compensation for the shortened time by more intense production has not taken place." The editor of *Die Konjunktur*, Richard Calwer, who is not only a Socialist but also a statistician and economist of recognized rank, has condemned eight-hours as "economically fatal," saying that the reform has caused "a great injury to production."

In general, German working hours at present are less by one-fifth than before the war. Production has fallen much more than one-fifth. But Doctor Hoffmann says quite fairly that there is no exact proof that production everywhere would have fallen more than one-fifth if there had been no other unfavorable factors. Reduced production may partly be explained by inferior health and feeding, by disappearance in war of many first class workers, by deterioration of machines and

by political ferment. In many trades, however, the decline in output per worker is greater than can fairly be explained by these unfavorable conditions.

Coal mining in Germany is now a legal seven-hour day. Before the war the rule was eight hours. As against a reduction of one-eighth in working time, there has been a decline of about one-third in output—from 0.884 ton per man per shift to 0.597 ton. This is in the Ruhr mining district of Westphalia, but figures from other mining districts are much the same. [Doctor Hoffmann wrote before the French and Belgians occupied the Ruhr.]

Doctor Hoffmann holds that in works where payment by the hour prevails a one-fifth output reduction as due exclusively to the shortened hours may be taken as proved. In such operations the intensity of work has not increased at all. Where piece payment prevails conditions are otherwise. The working hours of concerns practicing piece payment have also been reduced to eight, and with them if the workman is to earn his former income he must either get a higher piece wage or he must work more intensely. Doctor Hoffmann holds that more intense work has been achieved in certain industries where the human element dominates; but that where the intensity of work depends primarily upon the speed of machines the shorter hours of piece payment workers have brought shortened production. He calculates for all the workers of Germany an average reduction of 15 per cent in production.[1]

[1] The crisis in Germany in October, 1923, which resulted in the establishment of a dictatorship, focussed upon this very point of the statutory eight-hour day. The industrialists insisted upon its abolition for the salvation of the nation, while the Socialists continued stubbornly to resist.

The evidence from other countries of Europe where the eight-hour day has been put into effect—France, Belgium and Sweden—is similar to that from Germany. From Great Britain only we do not get such reports, but in view of the large percentage of unemployment that has been experienced there we should not expect to. The sameness of the results in the Continental countries is, however, commanding. All of them show a diminished production in at least the ratio of 10:8 in industries where the pace is fixed by machinery, which generally moves at the same rate in an eight-hour day as in a longer period. In other kinds of work there has been also a contraction in performance which is greater when payment is made by time than when it is made by the piece. Every country reports the occurrence of "black labor," meaning that ambitious workmen after finishing a day's work in one factory seek other employment, which leads them to work 12 or even 14 hours per day, returning the next morning to their primary job weary and inefficient. This habit has become especially prevalent in Germany. Belgium reports the emigration of workmen to France, where the enforcement of the eight-hour day is less strict.

This is how the statutory eight-hour day has worked *en masse*. The results are exactly what we should have expected from the evidence of single arts and industries in America, where there has been no offsetting mechanicalization, such as brick-laying, the work of stevedores in loading and unloading ships, etc. Indeed it may be deduced with positiveness that if any industry shows greater production per workman in eight hours than in 10-hours per day, barring rare exceptions, the explanation is to be found in machinery, which is not

necessarily an economic benefit, although generally it is. The European countries, which have adopted the eight-hour day *en masse*, exhibit diminished production without exception, and without shutting our eyes to other contributory factors this is attributable in the main to the fewer hours of work. Diminished production spells diminished scale of living. The idealists who say to the laborers of a country that they should not work so hard tell them at the same time, though not in words, that they should not live so well.

Who can doubt that the shortening of hours in the United States, which here is coupled with an increased inefficiency per hour in many industries, is having the same effect? We do not see it plainly, for several reasons. Our labor statistics are but fragmentary. Our engineers and managers are making intense offsetting efforts. Our country is so rich that evil things and their consequences may be obscured for a long time. But examination of such data as are available is bound to find them pointing this way, which is indeed what is logically to be expected. It will be helpful to consider this subject in the light of the data presented in the sixth chapter of this book.

In the United States a relatively small proportion of the workers, especially those employed in continuous industry, have been engaged on 12-hour shifts. More men have been so employed in the iron and steel industry than in any other one industry. There was prolonged agitation for the abolition of that practice, not at all by the workers themselves but rather by persons who thought that no man should be required to work so long. A committee of the steel manufacturers reported a few months ago to the effect that

an abandonment of the 12-hour shift in the steel industry would be impracticable, and while the reasons that were given were appealing to common sense, there were introduced certain unfortunate phrases that gave an opportunity to quibblers to argue about them.

In the renewal of the discussion there were reiterated representations that three eight-hour shifts are more economical than two 12-hour shifts, which would be the best of all reasons for the substitution if the representation were true. In fact there is much reason to doubt it, which is not to deny that there has been considerable apparent evidence to the contrary. Before we can come to any sound conclusion on this subject it is necessary to consider the nature of work.

In an essentially laborious operation, such as shoveling coal out of a gondola car, it is conceivable that a man, given the same conditions, might shovel as many tons in an eight-hour shift as in a 12-hour shift, but it is by no means certain that such a result would happen. The evidence afforded by the results of changing from 10 hours to eight hours indicates that it would not happen.

The other extreme is the condition of purely mechanical production in connection with which the human function is purely that of watching a machine. If the machine be working at maximum efficiency and if two men in 24 hours should give it the necessary attention without becoming unduly tired, manifestly the substitution of three men would be economically detrimental.

An easier condition exists with respect to the operation of such an apparatus as a blast furnace, in connection with which the manning may be arranged in two 12-hour shifts, but with the men actually working

only at intervals, with considerable rest periods intervening. Much of the work on continuous 12-hour shifts is done under such conditions.

Now, if the machine or the furnace be operating at maximum efficiency, and if the arrangement of personnel be also designed for maximum efficiency, it is manifestly impossible for three men per 24 hours to effect a unit cost of production so low as two men. If something of that kind appears to result it is obviously ascribable to something offsetting that is introduced by management. For example, the shock of having to put three men on a job previously done by two may lead management to substitute an improved machine, or an improved arrangement of personnel.

Improvement of industrial practice by shock is efficacious occasionally, just as a boy may sometimes be taught to swim by pushing him off a boat. There are conditions however when shocks may not be beneficial, and the higher we move toward perfection in our industrial arts, the less likelihood is there of any benefit. When the silver-lead and copper smelters of the West were arbitrarily constrained to change from two 12-hour shifts to three eight-hour shifts, 20 to 30 years ago, they quickly responded to the force of circumstances, being well able to do so by virtue of the wide room for improvement that then existed. If they were now constrained to change from three eight-hour shifts to four six-hour shifts they would have far more difficulty. The doctrine that men in general can perform as much work in eight hours as in 10 hours, by virtue of their greater freshness, or that they will have the will to do so, is contradicted by common experience both in America and Europe.

Soon after the Committee of Steel Manufacturers had reported that an abandonment of the 12-hour shift would be impracticable, they felt themselves constrained to bow to outside popular desire, and the substitution was ordered to come into effect as soon as possible. The abolition of the 12-hour day in continuous operations in the steel industry that is thus soon to be consummated sprang solely from the sentimental and sociological thought that men should not be detained so long from their homes or be so long deprived of their freedom to live their own lives. It is well to be clear in the mind about this and strip away the buncombe respecting men being able to do as much in eight hours as in 12, respecting shortening shifts and *ipso facto* reducing costs, respecting the incentive to management to improve its practices, etc. There was no such thing as a general demand from the 12-hour workers themselves to have their time reduced. Their work was not of the nature to strain their energy any more than eight hours of intensive work, probably not so much, and they liked the opportunity to earn the wages commensurate with their hours.

The labor union aspiration for the eight-hour day has in mind the fixing of a limit beyond which overtime renumeration may be exacted. The philanthropological demand for it is founded on the thought that work is a dreadful thing, imposed by capitalistic task masters, that ought to be escaped whenever and however possible. The labor union principle is parasitic. The philanthropological is covertly socialistic.

Let philanthropologists and sociologists take note, however, that the will to work has not yet been extinguished in human nature. The American people

became prosperous and obtained the enjoyment of an advanced scale of living owing to their eagerness to work. Even in some of the countries of Europe where the universal eight-hour day has been established by law it has been observed that there are men who after completing their time in one factory go to another job to eke out the day. The erstwhile 12-hour steel workers may still find opportunities to remain away from their families. Indeed, it appears that they do exactly that and the sociologists have on their hands the job of warning them away from such pernicious activity and wheedling them into more devotion to their families.

Incidentally, I may point out an ugly immorality in this practice. The man who used to give 12 hours of easy work to one employer cannot give four hours of hard work to a secondary job and eight hours to his primary job and show an undiminished rate of efficiency in the latter, which fairness to the primary employer demands. There is nothing new in an employer frowning upon outside work by ambitious employees on the ground that it causes them to become stale and inefficient for the regular job for which he pays them.

The steel-makers were confronted by the practical condition that if 12 hours at 40 c. had been giving the worker $4.80 per day, eight hours at the same price would not give him enough. Nor would they be able even to hold him, for he would seek other employment where he could earn more. The steel-maker needed more men, not fewer. Yet the raising of the hourly rate might throw other rates out of balance. In the end it was decided to raise the rate to 50 c. per hour.

Obviously this spells an increased wage bill, an increased cost of production, for which some one must

pay and that some one can be no other than the general public. The latter must do without so much steel, or if it cannot dispense with some of that it must do without something else. In brief there can be no economic compensation for diminishing work hours if they be employed at maximum efficiency except by an offsetting invention. Otherwise there is simply deprivation.

Sociologists say comfortingly that improved methods and improved mechanicalization will be the immediately offsetting factor. What, pray, have the steel masters and their engineers been doing during the last 20 years? Fierce competition has not permitted them to preserve uneconomical methods. There will indeed be increased mechanicalization if for no other object than to make a machine do the work of a man with no advantage other than to obviate the scarcity of men willing to do disagreeable work. However, let it not be imagined that mechanicalization does not cost anything and is inherently economically advantageous. There are humane managers who instal machines to relieve men from arduous and killing work even when they are economically more costly. There are many jobs done by hand that might be done by machine in instances where the capital charges on the machine would be more costly than the wages of the men whom it would displace. There is always a shadowy zone of economic uncertainty, influenced by wage rates, interest rates and other things between the choice of doing things by hand or by machine. Out of that zone we may rise to the immense economic advantage of the locomotive which with relatively small capital charges and the attention of only three men will do the work of 10,000 men.

No one will deny the theoretical desirability of reducing excessive hours of work, but let it be clearly understood that the present successful efforts in that direction, whether they be statutory eight-hour day in Europe or the abolition of the 12-hour day in continuous work in the iron and steel industry of the United States, are in the nature of an economic restriction, which while conferring more ease upon the worker tend inevitably to impair the scale of living of people as a whole. There is a stubborn refusal to recognize that the essential thing for every country of the world at the present time is simpler living and harder work by wage earners. The exigency is more acute in some countries than in others. In Italy, a relatively poor country, the people found themselves constrained to bow to this in order to avoid early disaster. In the United States, a very rich country, the need is less acute and more obscure, but the hard times of our farmers and white-collar classes show that it exists.

One of the main reasons for the slow recovery in Europe from the effects of the war undoubtedly is the shortening of the hours of labor and the increase in the cost of manufactured and mineral products and of transportation that has resulted from this policy. It was, in fact, stupid to curtail production at a time when the greatest possible production was needed. It was done on the hypothesis that the scale of living for the workers should and could be raised and that it should and could be done at the expense of the employers, which, of course, proved to be a grotesque fallacy.

CHAPTER III

RAILWAY LABOR'S SHARE OF THE NATIONAL INCOME

The conditions of the war produced an unbalancing of the division of national income, *i.e.*, of the national products, that previously had obtained through natural equilibrium. According to the studies of the National Bureau of Economic Research, after segregating the farmers, who as capitalists and at the same time laborers and consequently are in a class by themselves, there used to accrue to non-agricultural workers about 70 per cent of the national produce. In 1918 the percentage had risen to 77.

I think that the National Bureau of Economic Research understates rather than overstates these percentages. In my own study for 1916 I arrived at 75 per cent against its figure of 67 per cent for that year. Such a difference need cause no concern. In these broad studies we can do nothing better than approximate. No one has computed these percentages for any year later than 1918. Without any doubt the figures have been rising. Conjecturally I estimated 80 per cent for 1919. Of course, as the percentage for labor has increased that for property and management has decreased, and this appears clearly to be at the expense of savings for future developments, of impairment of the national wealth, and of lowering of the scale of living of the property owning classes. These

subjects are discussed at more length in other chapters of this book.

There ought normally to be a gradual increase in the proportion of the national income accruing to labor, for as production increases by virtue of improvements in methods, the share of capital being limited by competition, there becomes available a greater dividend for the wage earners; but the natural increase in their percentage would be neither so great nor so rapid as during the last 10 years, nor should it come out of a production that has swollen but little and during the last few years has actually diminished. Those very conditions inherently betray the unbalance in the existing economic situation.

It is useful to pursue this analysis by examining the position of the labor in a major industry with respect to the entire national income. We may well select railway transportation for the reason that it is a major industry for which more complete data exist than for any other. Moreover it is an entirely unionized industry, wherein may be seen the effects of economic restrictions imposed by the labor unions, which in this instance are supported by Congressional enactments. Even now railway labor is clamoring for higher wages on the ground that they are needful in order to meet the high cost of living.

In a consideration of these demands the first essential is to determine the fact as to whether there be prosperity or not in the United States at the present time. If there be, as is represented by some publicists, labor has surely the right to participate in it, and any case against the railway brotherhoods will be weakened. If on the other hand there be not general prosperity, but

only a misconceived activity, and unequal at that, as I contend, the case against them will be strengthened.

The cost of living has nothing to do with the matter. That very conception implies that everybody is entitled to a certain kind of living, which of course is not so. This resolves itself again into the question of production and prosperity. If production be increasing faster than the increase in population people can live better and will live better. If the opposite condition be prevailing the scale of living will be lowered, and then no class of workers can maintain its previous scale except at the expense of other classes of workers.

According to newspaper reports, a constant improvement in relations between wage earners and employers, growing ability of workers to improve standards of living through increased wages, better working conditions and shorter work days make up labor's program for "permanent prosperity" as outlined by Samuel Gompers in recent harmony meetings with Secretary Hoover and President Barnes of United States Chamber of Commerce. "Those who clamor for wage reductions," said Mr. Gompers "are in the fullest sense promoting national retrogression and destruction. Continued payment of high wages, continued advancement and improvement in standards of living, continual enlarging capacity of wage earners to purchase and consume the products of American industry, are better preventives of industrial depression than any suggestions brought out by Secretary Hoover's business cycle committee."

The ideas of Mr. Gompers, which may be accepted as those of the conservative element of organized labor, exhibit a terrifying economic misconception.

In a consideration of railway labor I think that the fundamental thing is an examination of the percentage that it is, and has been, taking out of the national income. This appears in the following table:

COMPENSATION OF RAILWAY LABOR IN RELATION TO THE NATIONAL INCOME

Calendar year	Average number employed	Total compensation	Average compensation per employee	Index of wages (a)	National income in millions of dollars	Percentage of railway labor compensation to the total income of U. S.
1916	1,647,097	$1,468,576,000	$ 891.61	115.7	$ 45,400	3.23
1917	1,732,876	1,739,482,000	1,003.81	130.2	53,900	3.23
1918	1,841,575	2,613,813,000	1,419.34	184.1	61,000	4.28
1919	1,913,422	2,843,128,000	1,485.89	192.8	66,000	4.31
1920	2,022,832	3,681,801,000	1,820.12	236.1	72,000	5.11
1921	1,660,617	2,765,236,000	1,665.19	216.0	55,000	5.03
1922	1,579,000	2,634,717,000	1,668.60	216.5	59,000	4.47

(a) Average wage of employees in fiscal years 1912–14 is taken as the base = 100.

The above table begins with 1916, for it was then that the Interstate Commerce Commission first began to report for calendar years. The estimates of the national income are those of the National Bureau of Economic Research for 1916–19, both inclusive. Those estimates underwent the scrutiny of, and were approved by, the board of directors of the Bureau. The estimates for 1920–22, both years inclusive, are by myself.

Estimates of the national income can not be made with precision. The National Bureau of Economic Research has expressed the opinion that the margin of error in its estimates "is probably less than 10 per cent." My own opinion is that they are within 5 per cent. My estimates for 1920–22 are made by rougher methods than those of the Bureau, but I believe them to be inside of 10 per cent, plus or minus. In considering the

quotients derived from these data due consideration should be given to the effect of possible errors in the divisors.

The quotients computed show that the share that railway labor took out of the national income rose steadily from 1916 to 1920. In 1921 there was a small recession; and in 1922 a greater one. The last is ascribable to improved efficiency, the railways having managed to get along with fewer men, while the average compensation per employee remained substantially unchanged.

I do not think that the above table which begins with 1916 for the reason previously stated, tells the whole story. Making comparison between the three calendar years 1912–14, in which the national income averaged about 33.5 billion dollars, and the three fiscal years ending with June 30, 1914, during which the total compensation to railway employees averaged $1,295,224,000 per annum, it appears that the railway employees received 3.87 per cent of the national income. If we consider this a fair exhibition of prewar, normal conditions, railway labor was not treated as well in 1916–17 as might have been expected. In all subsequent years, however, the share of railway labor on the whole has been supernormal.

I say "on the whole," for if we analyse railway labor into train service and all other kinds of service, especially maintenance, we find different results. Broadly speaking, although the men who function in train service are members of the brotherhoods, which is one of the strongest groups of labor unions, it is found that their compensation lagged behind the general average. This is shown in the accompanying table.

ANALYSIS OF COMPENSATION FOR RAILWAY LABOR[1]

	Average number employed	Total compensation	Average per employee	Index of wages
1916				
Total	1,647,097	$1,468,576,000	$ 891.61	115.7
Trainmen	302,572	405,396,391	1,339.83	113.5
All others	1,344,525	1,063,179,609	790.75	117.4
1917				
Total	1,732,876	$1,739,482,000	$1,003.81	130.2
Trainmen	332,539	494,054,923	1,485.71	125.8
All others	1,400,337	1,245,427,077	889.38	132.0
1918				
Total	1,841,575	$2,613,813,000	$1,419.34	184.1
Trainmen	346,599	643,137,260	1,855.57	157.2
All others	1,494,976	1,970,675,740	1,318.20	195.7
1919				
Total	1,913,422	$2,843,128,000	$1,485.89	192.8
Trainmen	318,134	632,512,590	1,988.20	168.4
All others	1,595,288	2,210,615,410	1,385.72	205.7
1920				
Total	2,022,832	$3,681,801,000	$1,820.12	236.1
Trainmen	356,523	890,486,781	2,497.70	211.5
All others	1,666,309	2,791,314,219	1,675.15	248.7
1921				
Total	1,660,617	$2,765,236,000	$1,665.19	216.0
Trainmen	297,274	636,539,764	2,141.25	181.4
All others	1,363,343	2,128,696,236	1,561.38	231.8
1922				
Total	1,579,000	$2,634,717,000	$1,668.60	216.5
Trainmen	301,912	671,427,083	2,223.92	188.4
All others	1,277,088	1,963,289,917	1,537.32	228.3

[1] In the three fiscal years ending with June 30, 1914, the average number of men in train service was 322,350, whose average compensation was $1180.70 per annum. The total railway personnel was an average of 1,680,000 persons, whose average compensation was $770.79. These averages are taken the base = 100 in computing the subsequent indicia.

Regardless of the matter of division of compensation among the railway employees it is clear that in the

aggregate they have in recent years obtained an enhanced share of the national income. This is reflected in other ways which spring from the same fundamental principle. The increase in the national income during the 10 years beginning with 1913 is ascribable in only small measure to increase in the national production. It has been due in the main to the writing up of values. In other words the people have not had the enjoyment of more goods per person, but merely about the same supply expressed in different unit values. If the expressions were uniform for all things the people would be equally well off, but such is not the case.

Index numbers, whereof there are many, show the specific trend of things in nothing but the branch of industry or aspect of life that they represent. Therefore there should be great caution lest they be used for the measurement of things that they do not represent.

Comparison of Indices

Year	Composite	Railway employees		
		Total	Trainmen	Others
1913	100	100.0	100.0	100.0
1914	100			
1915	101			
1916	125	115.7	113.5	117.4
1917	150	130.2	125.8	132.0
1918	165	184.1	157.2	195.7
1919	195	192.8	168.4	205.7
1920	200	236.1	211.5	248.7
1921	170	216.0	181.4	231.8
1922	170	216.5	188.4	228.3

There is no generally accepted, composite index reflecting the status of all affairs. However, for the estimation of the national income by my method it is necessary to have such an index. After an examination and study of all index numbers I deduced a series as the "most probable" composite. Comparison of this with the index of compensation to railway employees appears in the table on page 36.

What I have called the "most probable composite index" may also be described as the "general economic index." It aims to represent the general average of the rises in prices that have occurred as the correlating factor between the national production of goods and

Comparison of Index Numbers[1]

Year	Raw materials						Producers' goods, FRB	D. A.	
	B	Dun	BL	DA	WRI	FRB		Crops	Live-stock
1913	100	100	100	100	100	100	100	100	100
1914	97	101	98	94	100	99	92	108	103
1915	107	105	101	97	102	101	97	110	95
1916	128	123	127	132	123	126	143	124	111
1917	170	169	177	176	173	187	184	208	164
1918	203	190	194	186	198	205	181	224	192
1919	203	191	206	195	230	218	179	234	198
1920	204	205	226	234	187	229	214	238	168
1921	123	141	147	161	148	142	135	109	107
1922	132	142	149	163	...	159	128	113	112

[1] Some of the figures for 1922 have been computed with estimates for December. The figures attributed to the George A. Fuller Co. for 1919 and 1922 represent only portions of those years. The numbers attributed to W. R. Ingalls are computed by estimating the value of about 1100 million tons of agricultural and mineral commodities, figuring the average value per ton and reckoning from 1913 as the base equal 100. There appears to be something wrong with these indices for 1919 and 1920, the reason for which has not yet been determined.

COMPARISON OF INDEX NUMBERS—*Continued*

Year	Consumers' goods				Construction			Most probable composite
	NBER	BL	FRB	NICB	Ab	EN	F	
1913	100.0	100.0	100	...	...	100	100	100
1914	102.4	103.0	101	100	100	93	91	100
1915	101.5	105.1	102	101	...	98	101	101
1916	111.0	118.3	119	109	...	137	132	125
1917	132.0	142.4	163	131	...	189	153	150
1918	154.0	174.4	191	159	...	203	155	165
1919	.....	188.3	211	172	...	208	163	195
1920	.....	208.5	231	198	...	239	210	200
1921	.....	177.3	159	167	179	202	177	170
1922	.....	167.3	151	157	170	177	160	170

B = Bradstreet
BL = Bureau of Labor
DA = Department of Agriculture
WRI = W. R. Ingalls
FRB = Federal Reserve Board
NBER = National Bureau of Economic Research
NICB = National Industrial Conference Board
Ab = Aberthaw Construction Co.
EN = Engineering News
F = The George A. Fuller-Co.

service in terms of quantity and the expression thereof in terms of dollars. There is no way of determining this highly necessary factor by any arithmetical or logical process. My method has been the examination of a large number of indicia, which appear in an accompanying table, and the exercise of empirical judgment as to what appears to be the most probable. Obviously, there is the possibility of more or less error in this. Yet, I do not think it can be very material, inasmuch as the estimates of the national income over a long series of years by my rough method, which involve these

factors, check closely with the estimates of the National Bureau of Economic Research, which are based on more painstaking and more meticulous methods.

The amount of the national income, the amount received by the railways as operating revenue, the percentage thereof to the national income, the percentage of the expenditure for labor with respect to the national income, and the indicia for railway freight rates and general inflation are all shown in the next following table. The indicia for freight rates represent the average receipts per ton-mile as computed by the Interstate Commerce Commission. In the three fiscal years ending with June 30, 1915, these averaged 0.7313 c., and that is taken as the base = 100.

Relation of Transportation to National Income

Year	National income, millions of dollars	Railway operating revenue, millions of dollars	Percentage of national income		Index of freight rates	Most probable composite index
			Revenue	Labor		
1916	45,400	3,597	7.92	3.23	96.7	125
1917	53,900	4,014	7.45	3.23	97.8	150
1918	61,000	4,881	8.00	4.28	116.0	165
1919	66,000	5,145	7.80	4.31	133.0	195
1920	72,000	6,178	8.59	5.11	143.8	200
1921	55,000	5,517	10.03	5.03	174.3	170
1922	59,000	5,559	9.42	4.47	160.8	170

The statistical exhibitions in this study reveal some very important, and even surprising, things, which may be summarized as follows:

Railway freight rates declined up to 1918 although the prices for all commodities and for labor in general were steadily rising, and in 1917 had already attained

a high average. In 1918–20 the advance in railway freight rates lagged far behind that of all other things. The further advance in railway rates in 1921 along with the decline in other things brought conditions fairly into tune for the first time since 1914. Obviously there is no fault reasonably to be found with railway freight rates, either past or present.

On the other hand the wages of railway employees in the aggregate advanced steadily. Up to 1918 they lagged behind the general advance, but beginning with that year they outstripped it greatly, and after 1920 they did not fall commensurately with other things.

Analysis of railway labor compensation between the men directly engaged in train service and all other employees shows that the former have not fared anywhere near so well as the latter. Whether this reflects the moderation of the four brotherhoods or the bedevilment by the governmental administration need not be considered here.

We must not undertake to draw too fine deductions with respect to the proportion of railway service and railway labor to the national income, owing to the possibilities of some experimental error in the determination of the latter. It appears, however, that the proportion for railway service has been increasing somewhat. With the index of freight rates lagging behind the general economic index there should be the opposite result. That the contrary is in evidence is ascribable to the increasing constraint to move a given tonnage of freight more miles. In other words, whatever increase there has been in the railways' share of the national income is due to the obligation to

perform proportionately more work that has fallen upon them (see Chapter VI).

The position of railway labor is quite different and in no wise uncertain. It has taken a largely increasing share of the national income, which of course has been at the expense of other classes of people. This is true of every industry wherein the index of wages is higher than the general economic index unless there has been an offsetting increase in the efficiency of the labor. With respect to railway labor that has not been the experience (see Chapter VI) and probably it has not been so with any major branch of labor.

In every industry we may expect to find inequalities among the subdivisions of labor, just as there has been between the trainmen and maintenance men of the railways. This shows the difficulty of trying to regulate such things arbitrarily and not leaving them to the working of the natural law of supply and demand. In the instance of the railways we have had the restrictions not only of labor unions, but also of governmental impositions.

Railway transportation affords the data for such a study as is comprised in this paper as does no other industry. It is certain, however, that if mining, building, manufacturing, local distribution, etc., could be studied in the same way they would exhibit similar things, *i.e.*, in general the capturing of an increasing proportion of the national income by their wage earners in somewhat the ratio that their indicia of wages has exceeded the general economic index.

It is clear that the wage advances that the railways have made since 1914 have been at the expense of their net earnings, their freight rates not having been in-

creased commensurately, nor even so much as the general economic index. It is equally clear that the railways are in no position to reduce rates at present unless they reduce labor also. Either a reduction of rates or an increase of wages at the expense of the stockholders of the roads would be akin to confiscation of their equity in the railway property of the country, which already has been gravely impaired.

CHAPTER IV

THE ECONOMIC POSITION OF THE AMERICAN FARMER

The unbalancing of the ratio that previously obtained in the division of the national income, which was one of the consequences of the economic upheaval produced by the war, has had a disastrous effect upon the American farmer in the course of the post-war readjustment. Expression of this is made politically in the agrarian movement, especially in the wheat growing states, that is analogous to the populistic movement which reflected the dissatisfaction of an earlier time, also resulting from economic causes. The grounds for the present agrarian discontent are stated most concisely as the low prices received by the farmer for his products in the market; and the continued highness of the price of everything that he has to buy, which causes both his cost of living and the cost of producing his crops to continue high in relation to his proceeds. In other words, his margin between proceeds and cost of production is greatly contracted.

We are given to speaking of farmers as a whole as a major class of workers who are distinct from the town workers and are governed by different economic factors. While all of this is true, we must nevertheless make a distinction among the farmers themselves. Thus, the farmers of New York and New England who are largely engaged in raising dairy products, eggs and poultry

and garden truck, the farmers of the South who raise cotton and tobacco, the farmers of the Mississippi Valley who raise wheat and corn, and the farmers of California who raise fruits operate under widely different conditions. The farmers of the South who raise a surplus of cotton for export are directly subject to European conditions, just as are the wheat farmers, who also have a surplus for export. The dairy farmers and poultry raisers of New York and New England sell in a purely domestic market and the benefit of high wages for town labor spreads to them to a certain extent. They are buyers of grain raised by the Western farmers. They, like all farmers, are affected, however, by the high wages of the labor that they have to hire and the high charges for railway transportation, which are a reflection of the high wages that the railways are constrained to pay for their labor.

There are differences also in the economic status of the farmers. Those of New York and New England are generally proprietors. In the West and South farms are operated to a greater extent by tenants. We find among them the sharp classification of croppers, tenants, part owners and full owners, whose capital increases in the order mentioned. Use has been made here of a portentous word, *viz.* capital. All farmers are capitalists, *i.e.*, they are owners of property, although the croppers have but little. Even the tenant farmers have a good deal of capital in the form of implements and live stock, crops on hand and growing, and other assets. The owners of farms have all of these assets and in addition thereto their land and the improvements upon it.

There is to be found here the fundamental difference between agricultural workers and town workers. The

farmers are wholly capitalists whose income is derived from the use of their capital plus their own work. Economically they are in the same position as the merchant who owns a shop and stock of goods and occupies himself in the merchandizing thereof. The town worker, excepting the merchant and others who use their own capital, derive their income from wages, which spring from the use of capital that is owned by others.

This broad distinction between agricultural workers and town workers is far from being precise, but it is convenient and gives rise to no misunderstanding. Of course, the worker for wages in a factory may possess some shares of stock in the company that owns it and thus be a capitalist. Even the president of a company may theoretically be merely a wage earner, but the chances are of course that he will be a capitalist through the ownership of stocks. On the other hand a large class of farm laborers are purely wage earners.

Whatever be the kind of farmer his income is derived from the sale of his products, less the direct cost of producing them. The direct cost of production includes the labor that he has to buy, the materials that he has to use, and finally the labor and material that he must apply in order to maintain the fertility of his land and the upkeep of his buildings, live stock, machinery, fences, ditches, etc. He must set aside moreover something for refunding his machinery and live stock, for in spite of proper upkeep they will eventually have to be replaced. In keeping his accounts the farmer should give himself credit for the subsistence of himself and family from the farm and also should take cognizance of appreciation or depreciation in the value of his land. Out of the margin between

proceeds and costs he should find a proper remuneration for his own work. If then the ultimate margin does not show a proper return on the capital invested the latter has not been economically as fruitful as should have been. In determining that, however, he must consider the average of a series of years, for inevitably there will be good years and bad years. In all of this the economics of the farmer are identical with those of the owners of railways, factories, and of stocks of goods for distribution. The fruit of all capital goods is borne in the same way. Primarily the return is determined by the markets for the products, which are entirely outside of the influence of any single group of producers. In international markets, such as wheat, the price is determined by the actions and reactions of producers and consumers all over the world.

The primary cause for the recent and present troubles of the farmers who raise wheat and hogs is that they have not been getting high enough prices for their products, which is ascribable to international market conditions. The difficulties of the farmers who produce those things grow out of the European situation. In the words of Dr. B. M. Anderson, Jr., in the Chase Economic Bulletin of August 10, 1923:

> Agriculture has become an over-expanded industry, not primarily because it has itself expanded, but because the manufacturing activity of the world has contracted. In the case of cotton there has been a corresponding contraction of agricultural output, due, of course, to the boll weevil. In the case of wheat, there has been an actual expansion of the world's output; increased production in Canada, the United States, and other places more than compensating for the decreased production in Russia and the Danubian countries. By and large, however, the difficulty is contraction of manufacturing in the world's manufacturing center. Western Europe, which before the war was the world's great center of manufacturing activity and the world's great market for farm products and raw materials, has lost her

prewar primacy in this matter and has left the rest of the world out of balance. The basic reason for this lack of balance in the world is obvious.

Central and Western Europe are chaotic. Public finances are disorganized, currency systems have been wrecked, political and military movements have demoralized economic life, current production is low. Having little to sell, they are able to buy little, as they have already largely used up those credit resources with the outside world which enabled them, for six or seven years, to consume without producing and to buy without selling.

With this constraint upon the prices for his products, the only possible salvation for the Western farmer is reduction of his costs. Instead of that happening in any broad way, however, he has experienced but little abatement of costs. He is thoroughly conscious of this and of the need for economies, but in his rage and despair he does not know how to go about effecting them. He is really in the grip of economic forces that are quite beyond his control. He blames primarily the railways, for he is able to see clearly how their rates affect him. He sees that a dollar price for wheat at Chicago in 1923 means much less to him than in 1914, for the charges for carrying the wheat to Chicago have greatly increased, wherefore the net price on the farm has been correspondingly reduced. He does not understand that these increased charges are ascribable to the internal economic unbalance, which has given the wage earners in the form of higher wages a greater share of the produce of industry at the expense of the capitalists to which class he, the farmer, belongs. Having no understanding of this he flirts with the labor unions and contemplates a forcible reduction of railway rates by governmental action, which would be at the expense of other capitalists, *viz.* the stockholders in the railways. If consummated such an expedient might prove to be practically a confiscation of the property of the railway stockholders. Inasmuch as that would be unconsti-

tutional, unmoral, and a lot of other adverbial things, the politicians who pretend to lead the Western farmers allege that the property of the railway stockholders has been overvalued in the interest of the malign profiteers of Wall Street and that the public should not be constrained to pay charges on their plunder. This was the inspiration of the physical valuation of the railways, instigated by Senator LaFollette. The results of that investigation by the Interstate Commerce Commission have proceeded sufficiently far to show that the aggregate physical value of the railways of the United States is in excess of what the transportation industry itself had heretofore claimed. Obviously therefore, there is no merit whatsoever in the agrarian contention for a reduction of railway rates at the expense of railway stockholders.

The Western farmers were not, of course, the victims of any deliberate deflation in 1920, as has been vociferously alleged by some of their exponents. The collapse that began about the middle of 1920 had long been foreseen by economists who knew that the extravagant post-war boom could not long continue in the face of a situation that was inherently unsound. The collapse was precipitated by the exhaustion of the credits that we had given to Europe, which withdrew Europe as a free buyer of our commodities and thus annulled a demand that had previously been contributing to the maintenance of our markets. The exhaustion of those credits and what was then going to ensue were clearly foreseen by the experts, but as is frequently the case most people refused to pay attention to them. Yet even those who did pay attention were helpless, for there could be no swift and complete liquidation on a rapidly

falling market. The Federal Reserve Board was in no way responsible for the conditions. Nor were the bankers, who were on the contrary as lenient in the matters of forcing liquidation and carrying frozen credits as they could possibly be. The farmers as capitalists, suffered from this general collapse like all other capitalists, and as did wage earners also in their turn. The copper producers of the United States fell into a far worse position than did the wheat farmers, but no sympathy for them was expressed.

During the war the farmers of the United States did very well, probably better than any other great industrial class. Prices for wheat, hogs, cotton and other produce rose to unparalleled figures and the owners and operators of farm property realized great returns. Their returns were so large and attractive that there followed a wild speculation in agricultural land, the prices for which rose to extravagant figures. There were misguided speculators and investors who bought at top prices and subsequently suffered huge losses. But precisely the same thing happened to investors and speculators in the shares of copper mining companies. There is no help for the farmer at the present time in granting new credits to him, which would mean simply putting new capital into an already over-expanded industry and would induce increased agricultural production and still lower prices for farm products. In the words of Dr. B. M. Anderson, Jr., "the farmer's present difficulty is partly due to the fact that he has had too much credit and too easy credit in the past. Greater difficulty in securing credit in the past would have lessened the evils of land speculation, and would have compelled the farmers to save more of their boom-

time profits." How successful farmers frittered away their resources by buying wild-cat stocks is notorious. In brief, the farmers of this country behaved during the boom with the same short-sightedness as other members of the capitalistic class, but on the whole with less intelligence.

The situation in agriculture in the United States is really more serious than appears on the face of things. Nearly one third of the estimated physical wealth of the country is counted in the farms together with their buildings, live stock and equipment. I have in my earlier work, and in other chapters of this one, pointed out how recent economic conditions have been, and are, causing the owners of property to let it run down owing to their being unable to keep it up, this being one of the serious consequences of labor getting a larger and larger share of the national income. With the share of property being uneconomically diminished and with labor squandering much of its proceeds in the enjoyment of a higher scale of living the national balance sheet will be bound to show that to a large extent the improved living of some of the people has been at the expense of the national principal. In this the devouring automobile has played a great part in the life of all people alike.

The conception of consumption of principal is not easily grasped. Even when it is comprehended experienced persons find difficulty in recognizing when it is happening. One of the serious duties of the consulting engineer is to make the corporation president see that his profits are not really what he imagines, owing to his failure to allow for consumption of plant. We are all prone to such blindness. In national economics

we are apt to fail to see the thing at all, our vision being so narrow and our reckonings so circumscribed and imperfect. Nevertheless it is simple enough to see that if a man fails to make adequate repairs to his house owing to his diversion to automobiling of the money that should have been spent on repairs the value of his house diminishes. In other words he has been enjoying his automobile at the expense of his principal.

Another man, who does not run an automobile, is unable to maintain his house properly for the reason that his income has failed to increase and he has not the means to pay for the necessary work at inflated prices. He is suffering loss of principal just the same as the man who is wasting directly, and while that is happening to him carpenters and bricklayers and plasterers are enjoying high living. There has been more deterioration of property in this way during the last five years than we commonly think. There is absolutely no way of measuring it in the aggregate. In my estimate of the national wealth at the end of 1920 I merely indicated the need for allowance on this account.

Of course the farmer, as a property owner, was bound to be a great sufferer in this way. Recently economists of the U. S. Department of Agriculture undertook to make an expression of this, asserting that American farmers, who have been making a large production with their physical equipment in a rundown condition, must within the next 10 years save up and reinvest in the farm plant from $8,000,000,000 to $10,000,000,000 of new capital, as a conservative estimate. The official report proceeds as follows:

> For three years farmers have patiently patched, mended, repaired and used makeshifts. Sometime in the coming decade the farm must have

about the same replenishment and renewal of productive plant that the railroads are now going through.

Before 1933 three-fourths of the farm buildings will require new roofs and new paint. Probably a half million new houses, barns and auxiliary buildings will have to be built. Half the present mileage of fencing will have to be replaced and much new fence put up. Millions of new tile must be laid.

The haying and harvest machinery will have to be replaced almost entirely; tillage machinery in large part; wagons, harnesses, in part. Millions of new automobiles, tractors and trucks must be bought. Millions of tons of new piping, wiring, barn equipment and small tools; millions of new gas engines and stationary power appliances; millions of feet of lumber and tons of cement must all be bought.

Millions of tons of fertilizer and lime must be poured into the soil of the East and South to restore pre-war fertility. The country's work horses are old and before 1933 almost a new crop must be raised.

The men who control great capital resources must realize agriculture's real and unusual need for new capital, and they must realize that farming in this country is still a basic industry—an industry with a future that will pay ample returns on every dollar wisely invested. One of the rural community's very serious problems during the next five or ten years will be debt.

There is great ground for suspicion that the farmers themselves, who are estimated to own nearly one third of the automobiles in the United States have bought and operated them at the expense of the upkeep of their principal—their roofs, fences, land fertility, etc. In doing so they have diverted demand from certain classes of raw materials and labor to other classes and thereby have contributed to the unbalancing of the old economic equilibrium and the promotion of the high prices which now plague them. The automobile manufacturer bids mechanics and materials away from other industries and waxes rich. The fertilizer manufacturers on the other hand have found themselves hard-pressed to keep out of receiverships.

Dr. L. C. Gray, in a paper in the American Economic Review, Supplement, for March, 1923, estimated the value of the farm capital of the United States at the beginning of 1920 as follows:

Land	$54,829,563,059
Buildings	11,486,439,543
Total live stock and implements	11,608,097,736
Value of crops in hand	5,812,000,000
Value of growing crops	277,019,520
Miscellaneous supplies	300,000,000
Cash to run business	800,000,000
Total	$85,113,119,858

In "Wealth and Income of the American People," I estimated for the end of 1920 that there were 955,676,000 acres of farm land, worth an average of $57.45, giving a total of $54,903,586,200; and 6,450,000 sets of farm buildings, averaging $1,750, giving a total of $11,287,500,000. Dr. Gray's estimates and my own are very close. Dr. Gray estimated live stock and implements at about 2¾ billion dollars more than I did, but if he includes the farmers' automobiles, as no doubt he does, about 1.5 billion dollars of the difference is accounted for. These estimates are therefore in close concordance.

According to Dr. Gray, about 75 per cent of the farm capital that he estimated is owned by farmers who use it, the remainder being owned by landlords, about one-half of whom are retired farmers. Another class of landlords are townspeople who have inherited or acquired by marriage the ownership of farm land. Dr. Gray estimated that active farmers owned other wealth as follows:

Cash	$3,635,690,034
Stocks owned	1,015,710,491
Bonds owned	694,083,058
Town real estate	731,176,083
Household goods	1,970,521,722
Bills receivable	1,651,999,911
Miscellaneous	134,555,959
Total	$9,833,737,258

The net worth of the farmers of the country is summarized as follows:

Assets	*Total*
Farm capital owned by farmers	$63,818,090,465
Other assets	9,033,737,258
Total assets	$72,851,827,723
Liabilities	
Secured by farm real estate mortgage	$ 5,967,384,775
Short-term indebtedness to banks	3,455,813,034
Other indebtedness	1,605,900,211
Total liabilities	$11,029,098,020
Net worth	$61,822,729,703

Dr. Gray computed the net worth of farmers who were full owners of their property (as distinct from part owners) as averaging $13,476. If we divide the total wealth of the United States, which I have estimated at 290.6 billion dollars at the end of 1920, among 40 million workers or 25 million families, the position of the farmer respecting property does not compare unfavorably with either of these averages. Nevertheless, it is clear from all analyses that the farmer does not as a worker get enough for his annual labor; nor as a capitalist does he get adequate return upon the investment, as capital returns commonly go. "Speaking broadly," says Dr. Gray, "the figures suggest that the accumulation of wealth in agriculture would be a very slow process without on the one hand the practice of rigid and painful thrift or on the other hand the fortunate incident of rising land values." In this connection, however, it is well to pay attention to recent words of Dr. David Friday, a specialist in agricultural economics, who says that a "Fundamental fact which

impresses anyone who applies his mind to the agricultural situation is the wide diversity of productive efficiency which prevails among the units which the farmer employs in carrying on his business. . . The inefficient units with which the great mass of our farmers are still operating, and the ineffective methods which are employed by fully one-half of our 6,500,000 farmers, are the chief causes of distress among this large agricultural group. It may be economically unsound to counsel increased production for American agriculture, but only good can come from a decrease in the cost of production."

I should not say that it would be economically unsound to counsel increased production by the farmers, who might be best advised to increase their production, but to do it in different things and by improved methods. In his present situation it is undoubtedly sound to advise the farmer to curtail his production of wheat, which he is already starting to do by cutting down his acreage under cultivation, but it is not so good advice to recommend him to reduce his aggregate production unless we are in a position to reduce the number of farmers. In that connection there would be many things to study. Wheat is relatively an easy crop to raise and the grain is easily capable of transportation, wherefore remote land may be cultivated for this purpose. The direct labor in raising the wheat crop is small. Perhaps not more than the work of 30 days per annum. The wheat raiser, like the hay-cropper, has much time for raising other things, for his own consumption at least.

It is of course cold comfort to the farmer in the present juncture to tell him that he ought to improve

his methods. The advice is good, to be sure, but even if it began immediately to be generally followed there would be the passage of many years before the beneficial results would show strongly. This is analogous to telling other capitalists, and the engineers who work for and with them, that they should improve their methods in manufacturing, transportation, etc., in order that wage earners may retain their present scale of living, the main difference being that manufacturers have already attained a high degree of efficiency, while farmers have not, wherefore the road to further improvements by engineers is not so easy.

The matter of concern to the farmer is what can be done by and for him right away. Let us be frank and say that there is nothing. He must watch the operation of economic forces and await their results just like everybody else. He is in the same position as the stockholders in industrial companies, but he is doing more complaining. Probably his situation is not so bad as he thinks and represents. Even the farmers of the northern-central group of states raise a great deal of produce other than wheat and hogs. The extent to which they continue to operate automobiles and the bill that they pay for that comfort and convenience indicate that their condition is not utterly desperate, else they would not be able to do so at all.

If conditions be left to work out in their own economic way, we may expect that the more intelligent farmers will curtail their production of wheat and hogs, and divert their attention to the growing of other things for which there is better demand. The less intelligent will simply curtail their production, and in doing less work and living not so well, will tend to contribute

toward further economic impairment. The least intelligent will abandon their farms and migrate to the towns where they will find employment as laborers. The migration of farm laborers that has already been going on, which has increased the difficulties of the farm operators, is a natural development of the same order. These movements will tend to increase the supply of town labor, lower wages, lower costs of production, and in the end make it easier for those who remain on the farms. However, this will be a slow process, a process of many years. It will be a process of capital extinction or loss, or a measure of that which has already been eaten, just as became the farms in New England which were abandoned after their fertility had been exhausted.

There are things that the farmer can do if he will that would be equally sound and much quicker in their effects. He might curtail his operation of automobiles, thus releasing some of the labor that is at present engaged in making them and supplying them. He might also take a firm position in favor of the removal of economic restrictions that impair production and lead to the employment of more men for certain purposes than is needful. He might, moreover, take a firm position in favor of letting the people of Europe work for us, specifically by reducing our tariff barriers so that we may take advantage of more cheaply manufactured goods. He might, finally, urge and compel the removal of other economic restrictions, such as are outlined in a subsequent chapter of this book. He could compel those things, inasmuch as his own class combined with other classes, whose difficulties and needs are similar to his own, constitute the majority

of the people in this country. Such policies would aim at the deflation of labor, and that is what the farmer needs more than anybody else. Such procedure would create disturbances and would have adverse effects upon many industries, wherefore it should be directed cautiously and with great intelligence. Anyone who imagines, however, that the inevitable readjustment of economic equilibrium is going to happen without disturbances and injuries is living in a fool's paradise. The main things that the farmers ought to avoid are the promotion of financial fallacies and any alliance with town labor. It is the latter which has been living largely on the farmers' principal. The farmer is economically of the capitalist class and his interest lies wholly with that class, not with wage-earning labor.

CHAPTER V

WHY PRICES CONTINUE HIGH

Beginning in 1915 the prices for commodities started sharply upward. In 1916 the general average in the United States was about 125 in comparison with that for 1913 taken as 100, or the base. Contemporaneously we thought that advance an economic enormity, but after 1916 the rise became even steeper and more rapid. Wages rose like commodities, lagging behind them at first, but then outrunning them. What caused all this?

The common answer is inflation, meaning the blowing up of government credit by the issuance of paper currency and by broad borrowing; and the extension of commercial credit. Obviously this would not have been done without a good reason. It should be equally obvious that the reason in 1916–18 was a sudden demand for goods and labor that was far in excess of the immediate supply, a demand moreover that was reckless and not to be checked by high prices as normally. Therefore both prices and wages rose to extraordinary heights and credits were necessarily expanded in order to carry on business. Inflation of credit and currency was an effect, not a cause.

The extraordinary demand for goods and labor did not cease with the end of the war in 1918 but continued into 1920, wherefore the rise in prices and wages kept on. Of course the post-war demand was to

a large extent of a different nature than during the war, but it was directly consequential from the latter. In 1920–22 there was a decline, which was more in commodities than in wages, followed in 1922–23 by a renewed rise.

The maintenance of high levels of prices and wages in the United States is popularly ascribed to inflation. We have fallen into the habit of talking about inflation and deflation, owing to their being convenient expressions meaning the raising or lowering of price levels, but in fact the majority of economists hold that there is no such thing as monetary inflation in the United States at the present time. This may be affirmed positively.[1]

The price level is therefore determined by something else, and what else is there but physical demand and supply? As I have tried to make clear elsewhere, the natural demand of an increasing population in this country is directed against a supply that is not increasing commensurately. Let there be a reversal of this condition and I think it is quite obvious that prices will fall. I can see no good reason why they should not fall to the pre-war level if sound policies be established and complete freedom of competitive action be restored. They may not go quite so low, on general average. On the other hand, it is conceivable that eventually they may fall below the pre-war level.

We see ships now selling for much lower than pre-war prices; transatlantic freight rates at near the pre-war

[1] This statement was made by Professor Bullock at a Harvard Economic Conference in New York in the early part of 1923 and drew out no expression of dissent. I am aware, of course, that economic opinion respecting this subject is not unanimous, but I think that it is preponderatingly as I have summarized in my text.

level,[1] while rubber, although it has lately had a sharp rise, is much below the prices of 10 years ago. On the other hand, platinum is about five times as high as it was 20 years ago. These instances show that prices *can* descend to pre-war level. Also that single things may fail to conform to the general trend owing to particular conditions of demand and supply.

The fact that we are now saving for reinvestment less than we used to, and less than we ought to, does not affect the demand for goods in the aggregate. It means that what might be taken for houses and railways is actually taken for less durable purposes. Although this may be reflected in high rents, it may also result in relatively cheap automobiles. However, the total expenditure will be the same and will correspond with the amount of the national income (barring certain questions of external investment, gold movement, etc.). The economic penalty for inadequate saving is paid in shortage of capital goods, which may be a long time in manifesting itself so as to be uncomfortable.

The fundamental thing that curtails supply and leads therefore to high prices is lack of production due to diminution of effort and diversion of too much labor to service. The people who so slacken and who are so diverted have at least the same needs as before. Without any further slackening or diversion to service, prices would tend to rise merely by virtue of increasing population. This is self evident.

It must also be evident that increasing immigration adds to the demand for goods and that the only advantage to be expected in this way is from increasing pro-

[1] On basis of 100 for period 1898 to 1913, inclusive, statistics of British ocean freight rates for whole cargoes show average to have been 120.28 last July, against 124.27 in June, 133.27 in May and 280.14 at end of 1920.

duction in greater ratio by the skillful use of the new labor, which may open constrictions in our industrial system that have arisen from the refusal of our existing labor to function in certain capacities.

It is no more than common sense to figure that if brickmasons would lay 100 bricks per hour instead of 70 and that if they would work 55 or 60 hours per week instead of 44, or 40, we should quickly acquire more houses and rents would fall. Similarly would the supply of all things be increased and all prices would fall.

The present situation has been produced by economic unbalancing and artificial restrictions upon production. Except for dislocations, both physical and mental (the latter being possibly the more serious) the consequences of the war have relatively little to do with it, speaking only of the United States, which incurred no external indebtedness. The pension bill, which is a measure of the impairment in human working ability, is not so big as to trouble us very much. The bond charges, which are collected from some people *via* taxation are paid out to others as interest. The greatest economic consequences of the war in the material way have been the enhanced demands for replenishment of depleted stocks of goods and the repair of deteriorated property.

The economic and political restrictions that have been imposed upon supplies are manifold.[1] There are people in foreign countries who are favorably situated with respect to certain kinds of production and want to furnish things to us, which we prevent for the avowed purpose of keeping up our prices.

[1] This subject is discussed more fully in Chapter IX.

Unionized labor imposes restrictions upon the practice of certain of our trades and thereby diminishes the supply of goods that those trades produce, again with the natural consequence of raising prices. In some overmanned industries we are expected to support a large superfluous personnel without their producing anything.

In railway transportation the government itself sanctions the annulment of competitive conditions and fixes terms whereby men doing a certain kind of work on the railway right of way get 50 cts. per hour while the same kind of men doing the same work in private fields immediately adjoining get only 30 cts. per hour. This policy increases the cost of railway transportation, which is reflected in the prices for goods.

The elevation of prices in this way, in the absence of monetary inflation, is, of course, possible only by the creation of conditions that give some classes of workers an undue share of the goods that are produced, or the ability to command them, at the expense of other classes. This is the real thing in profiteering.

The most glaring and most serious manifestation of this is the profiteering at the expense of the farmers, although clerks and the white-collar classes are victimized in the same way. The farmer, as a direct producer, is closer to the operation of the law of supply and demand than is the proletariat. The farmer, too, might curtail supply but he knows enough to understand that high prices for a diminished product would be of no benefit to him, but the opposite. Therefore the farmer, who is characteristically confused in his ideas about money and credit, looks first for the way out of his difficulties by monetary inflation, which

economists know would soon make things worse for him.

Similarly, the white-collar classes, squirming under famine prices for anthracite and increases in railway commutation fares for which labor dictations are responsible, are the victims of economic insanity in praying for governmental operation of the coal mines and the railways, which is just what the labor organizations want and which would make conditions far worse for everybody, as would quickly appear in prices.

There is a big economic difference between labor that grabs more than its due, like the anthracite workers, but nevertheless works, and labor that aims under governmental management to get more men on the job, as happened when railway transportation was being directed by Mr. McAdoo.

The way to lower prices is the removal of artificial restrictions that counteract free competition and the curtailment of the diversion of labor to service. The first of these policies would increase production by the promotion of efficiency. The second would add to the number of workers available for the production of needful things and would be expressed to a large extent in contraction of governmental operations, that would result in lower taxes. In speaking of governmental operations, I refer, of course, not only to the Federal but also to the state and municipal.

If the Federal expense for bond charges and pensions be deducted, about one-eighth of the national income in 1922 was drafted for the expense of government. The present administration has effected praiseworthy economies, but after all it has not gone very far in cutting down service. The states and municipalities

have done even less. No doubt the public insists on having a good deal more than formerly, which contributes to raising prices against itself.

Inflation is a resonant word, and the idea it conveys is a convenient scapegoat; but at present it is a phantom. Railway passenger rates have been 3.6 c. per mile compared with 2 c. pre-war and commodity freight rates[1] something like 0.8 c. per ton mile *vs.* 0.5 c. and even so the railways have been starved. Every intelligent person knows that this is due to what is paid to railway labor. So does he know that anthracite costs $15 per ton in New York, just twice the pre-war figure, owing to the exactions of miners, plus railway men plus teamsters, etc. Rents are high because building costs in 1922 were about 1.7 times the pre-war for the same reasons plus the terms of the building mechanics and during the early part of 1923 rose sharply and high. Farm products are low because the farmers have not been able to arrange any restrictions upon production, but by the time the foodstuffs have reached the consumers the labor that has touched them has seen to it that they become costly enough.

The argument of labor is that it must have high wages in order to meet the high cost of living, but in fact it puts up the cost of living to itself, and, unfortunately, to the farmers and other people at the same time. The natural outcome of these vicious reactions is to raise prices so high as to develop a buyers' strike, *i.e.*, people are constrained to do without so many things as previously.

The present position is that we are dividing a quantity of production about the same as in 1913 among

[1] These figures refer to bulk commodity rates and are not in conflict with the data cited in Chapter III.

about an eighth more people. The production is expressed in more dollars through being multiplied by about 1.7 as an average. Some classes of people get more than their share by virtue of a multiplier of 2 or so, while for others the multiplier is 1.5, or maybe 1.1. We may get a better idea of this by reference to the accompanying table, which shows the compensation of workers in several major occupations.

INDICIA OF WAGES

Year	*Railway*[1]	*Factory*[2]	*Steel*[3]	*Anthracite*[4]	*Clerical*[5]	*Composite*[6]
1913	.....	...	100	100	...	100
1914	.....	100	101	.....	100	100
1915	.....	101	101	96.2	100	101
1916	115.7	114	121	114.6	101	125
1917	130.2	129	151	113.2	105	150
1918	184.1	160	179	173.3	120	165
1919	192.8	185	233	202.9	135	195
1920	236.1	222	254	240.6	153	200
1921	216.0	203	203	261.9	162	170
1922	216.5	197	162	.....	162	170

[1] As computed in Chapter III.

[2] Indices of average earnings in factories in State of New York; assumed to be typical of factory wages throughout the United States.

[3] Indices computed from data of U. S. Steel Corporation.

[4] Indices computed from man-shifts of work performed annually, as reported by the U. S. Geological Survey; and from total compensation as reported by E. W. Parker, Director of Anthracite Bureau of Information for 1913, and from the Department of Internal Affairs of the State of Pennsylvania for 1915–21. For 1922 these data have not been available from the latter authority. These indices are only approximate.

[5] Earnings of office employees in factories in State of New York, roughly.

[6] As explained in Chapter III.

If we could have similar indices for building mechanics we should surely find them running as high, if not higher, than for railway and factory labor. The indices for clerical labor are not very satisfactory, but are the best available. The compensation for city

clerical labor has probably not increased so much as it has in the factories, where it is easier for clerks to shift to employment as operatives.

It is well-known how agriculture has suffered since 1919 at the hands of town labor. The foregoing table shows how among the classes of town labor there has been maldivision, to the profit of mechanics and laborers and to the detriment of the white collar classes. It appears also that unionism has not been the sole determinative factor in this, for the position of labor employed in the steel industry, which is conducted on the principle of the open shop has improved more than in the strongly unionized railway service. The explanation of these maldivisions is of course to be found in demand and supply, perverted by the primary unbalance between capital and labor, and affected by artificial economic restrictions of one kind or another.

It would follow as a logical conception, even if there were no evidence, that the maldivision which resulted in giving too much to some classes of labor would tend to cause them to ease off in their work and diminish production. At the same time there has been an increased diversion of labor to service (mainly public service) contributing toward the same result. Examination of the statistics of production brings out strong evidence of the actuality of diminished production, especially since the end of the war (see Chapter VI).

We need look no further for the explanation of the high prices still prevailing in the United States. The increase in population together with the increase in the buying power of many classes of wage earners intensifies the demand for some commodity, *e.g.*,

anthracite coal, whereof the production has not increased and the price for it is bid high. The people whose buying power has been diminished must still have that essential fuel, which then they can get only by the sacrifice of something else. If on the contrary needed commodities are produced in superfluity the price for them goes low, as in the instance of wheat, or even to pre-war level as has recently happened in the instance of gasoline.

The position of prices in Europe is confused by the derangement of exchanges, the absence of gold basis, and the real inflation of paper currency in some of the countries. In general we may deduce, however, that prices in Europe continue far above the pre-war level, just as with us, and that the true explanation is even more unmistakeably the deficiency of production, which insofar as western Europe is concerned is probably not more than 75 to 80 per cent of the pre-war figures.

On this subject, the Swiss Bank Corporation, whose occasional bulletins on the international situation, financial and economic, have attracted wide attention in European business circles, predicted in a recent review that the tendency of prices for commodities will in the long run continue to be toward the pre-war level, and that such a level may be re-established in the not very remote future. This bank combats the theory that the fall of prices since the high point of 1920 was a result of intentional "deflation." That theory, it argues, could hold good only when production and consumption are normal, and in this case appeals only to "the imagination of manufacturers and producers who have always been inflationists at heart." It continues:

The contention that the fall in prices and the crisis are due to deflation—that is to say, to intentional contraction of the circulation and of credit—is in reality only an advocacy of a return to the extravagant methods of war-time finance in some milder form. The banks have been accused of having aggravated and contributed to the outbreak of the crisis by withholding credit. Their balance sheets, however, show that they went to the very utmost limit of prudence. What happened, as a result of stoppage of war-time finance, was that the banks ceased to receive fresh deposits and new cash and could, in consequence, not increase their commitments.

Looked at from this point of view, there is no reason why the pre-war level of prices should not be re-established in a fairly near future in the world's market. At the moment there is, however, a break in the fall and even a slight tendency to rise, the index number fluctuating round about 50 per cent to 70 per cent above the pre-war level in countries with normal exchanges. The immense increase of taxation and the restriction of production, which necessitates increased overhead charges being borne by smaller production, might well militate against a continuation of the fall and toward maintaining the present level.

On the other hand, the fall in prices has not been uniform in all trades; in fact, it has been much more pronounced in the case of international commerce, no doubt owing to the competition of countries with depreciated exchanges, than in those trades which in every country hold a kind of monopoly, such as the railways, building, printing and retail trades. An adjustment has to come sooner or later and may well be accompanied by a further drop in prices.

Whenever an individual has sustained a financial loss, this is brought home to him as a reduction of income. In the same way the impoverishment of the world, through the war, finds its expression in a decrease in production.

We can not, even in the United States, return quickly to the situation in which we were before the war. For one thing we have outstanding a large volume of internal indebtedness, which was contracted during a period when prices were very high. When the bonds representing this indebtedness are paid it may be possible for their holders to buy with the proceeds two pounds of goods against one pound at the time of issue of the bond. Deflation will therefore be in favor of these bondholders and against the tax payers. Moreover, the bonds, which of course are good for their face value will be a basis for expanded credit so long as

they are outstanding and that may easily have an effect upon prices. However, that may be greatly overestimated.

Now and then we observe attempts to bull the market for a commodity on the strength of the idea that by virtue of its being lower than other commodities things are out of tune and ought to come into tune, which is of course a reflection of the inflation hypothesis. We have observed failures of such attempts owing to their prompt stimulation of production, causing the market to fall even lower than before. Competition is therefore still the real corrective of high prices. With us, however, competition is more or less restricted by bad laws and bad practices. These must be eventually broken down, for that is bound to happen to any system that is so devastating as what we have at present. When and how that will begin, I venture no prophecy.

Of course the American people as a whole would be better off with the same volume of goods per family, the same area of house room, etc., that they had in 1913. They can get it only by increasing production and balancing it properly. They will not get it by consenting to a 40-hour week for work, or by governmental control of the mines and railways. I should think that any one who experienced the consequences of macadoodling the railways might see that. I should think, too, that the aggrieved and bewildered public might begin to see where the evil is really rooted. Let there be reflection upon the thought that in quarrelling about the division of produce we have been forgetting to produce enough, and have been blind to the unbalance and distortion of our production.

CHAPTER VI

WHAT IS OUR NATIONAL PRODUCTIVITY

I have in the previous chapters repeatedly expressed the opinion that our national productivity has not been increasing at a rate commensurate with our increase in population, that upon the whole our national scale of living is not so good as it was before the war, and that our recent burst of industrial activity has been at the expense of necessary savings, for which we are going to be constrained ultimately to pay the penalty. There has been a good deal of publication of opinion to the contrary, much of which has been idle and shallow, but some of which has been intelligent and thoughtful. Of the latter the best expression appears in an article by the Hon. Herbert Hoover under the title "We Can Hold the Prosperity We Have" in the *Nation's Business* for June 5, 1923. If this view is right of course my own is wrong. In order to bring out the issue clearly, therefore, I quote from Mr. Hoover's article at considerable length as follows:

We must get our minds away from the notion that pre-war standards of living and volume of business would be normal now. Normalcy is a vastly higher and more comfortable standard than 1913. We must not judge the state of business activity by pre-war figures, but by a hugely increased base. We must not be frightened when our output of steel or textiles or automobiles, lumber, corn or hogs, or our car loadings amount to figures far in excess of those that would be implied alone in a normal growth of population.

There has been in the past decade an unparalleled growth of our industrial and commercial efficiency and our consequent ability to consume. I do not refer to that growth of productivity which should naturally be expected to accompany the addition of 14 millions to our population during the last

decade, nor do I refer to the increase in dollar figures due to higher prices. Entirely over and above these contributions to increased figures, we are producing a larger amount of commodities per capita than ever before in our history.

Precise comparisons are difficult to adduce. But exhaustive study from many angles of production over average periods 10 years apart, before and since the war, would indicate that while our productivity should have increased about 15 per cent due to the increase in population, yet the actual increase has been from 25 to 30 per cent, indicating an increase in efficiency of somewhere from 10 to 15 per cent.

For example, there has been no increase in the number of our farmers during the last decade, yet the agricultural community not only feeds an increase of 14,000,000 of population, but has increased its average exports from about 7,500,000 tons to 17,500,000 tons annually. This would show that the individual farmer has increased his efficiency in production by from 15 to 20 per cent in this period.

There are many commodities where we have years since reached a point of saturation per capita and whose industries grow approximately with the growth of population or in increasing exports. There are other commodities where saturation has not been reached. Increasing efficiency not only releases labor and direction for greater production of these things but enables their wider diffusion over the population. A selection of such industries shows a growth of 60 per cent in the last decade.

We have been able to add to our standards of living by the more general distribution of many articles which were either altogether luxuries 10 years ago, or which were luxuries to a large portion of the population. Thus an increased proportion of the population are using electric lights, telephones, automobiles and better housing—and have added movies and what not to their daily routine. A rough estimate would show that we could today supply to each person the same amount of commodities that he consumed 10 years ago, and lay off about 2,000,000 people from work.

Some people have looked upon these conditions of new commodities and services in the daily expenditure of our people as representing extravagances, but as a matter of fact they are no entrenchment upon savings. They are the result of steady improvement in management and method all along the line.

The result has been a lift in the standard of living to the whole of our people, manual worker and brain worker alike. This is the real index of economic progress.

The construction of our buildings, our railways, our plant and equipment generally, naturally tends to expand parallel with the increased demand for consumable goods because people are both more courageous and more easily financed in good times. We have not only the normal growth of the country to meet, but the long-overdue and accumulated deficit. The delays of war and of post-war slump, and our increasing efficiency in production all demand more buildings and transportation facilities.

We may overlook some contradictory and paradoxical things in Mr. Hoover's expression such as the declaration about there being a vastly improved scale of living on the one hand and the declaration about there being a deficit in our housing and transportation facilities on the other hand; also the paradox about a general state of national prosperity which a large part of the people are obviously not enjoying. We may avoid any controversy upon those subjects and confine our attention to the positive declaration that while in recent economic history the American population has increased about 15 per cent the increase in productivity has been from 25–30 per cent, which if true would indeed spell an increase in the scale of living by the people, that might be expressed by the acquisition of more comforts or release from the exigency of having to work so hard, or both. I hesitate even to attempt to contradict Mr. Hoover upon those points, for there is in his statement a certain vagueness respecting the period of time that he had in mind. He refers to normality being in 1923 "a vastly higher and more comfortable standard than in 1913" and to "an unparalleled growth in our industrial and commercial efficiency" in the last decade, but further on he refers to studies of production "over average periods of 10 years apart, before and since the war."

As between 1901 and 1916 there will be no question respecting the validity of Mr. Hoover's assertions; nor, probably, as between 1901 and 1921. As between 1913 and the present time or between 1916 and the present time, there can not be the same assent, and for the reason that between the middle of 1914 and the end of 1918 there happened to the world some things—

physical and psychological—of a cataclysmic nature. Mr. Hoover himself has recognized this, for in an article in *Forbes' Magazine* in the early part of 1922 he said, in discussing our ability to compete against foreign imports and sustain our scale of living—

> There is only one practicable remedy, *viz.* to increase our efficiency in production, manufacture and distribution. Increase in efficiency means not only more able production, but also elimination of great wastes. If nothing is done to cut down waste and increase productive efficiency, the people of this country must inevitably suffer a reduction of their standard of living to meet the lower standards of Europe.

I pay great attention to Mr. Hoover for he is both an engineer and economist of extraordinarily high attainments. There is perhaps nothing inconsistent between his two opinions, of a little more than a year apart, that I have quoted. I can not, however, deduce from our statistics that we are producing a larger quantity of commodities per person than ever before in our history. I propose to deal with that subject in this paper. In a subsequent paper I shall take up the matter of our present scale of living and shall throw great doubt upon its being at the present time any better than it was 10 years ago.

The production of the principal raw materials in the United States, all converted into tons of 2,000 lb., in comparison with the population at the middle of each year, and with computation of the production in tons per person, appears in the table on page 75:

The estimate of the production of raw materials is based on the data of the U. S. Department of Agriculture and the U. S. Geological Survey, but the original data are converted into tons so as to get the same denominator, *i.e.*, bushels of wheat, bales of cotton and thousands of board feet of lumber are computed

STATISTICS OF PRODUCTION AND POPULATION

Year	Production, tons	Population	Tons per head
1913	1,113,344,000	97,278,000	11.44
1914	1,055,770,000	99,194,000	10.64
1915	1,095,771,000	100,428,000	10.91
1916	1,164,943,000	101,722,000	11.45
1917	1,227,036,000	103,059,000	11.91
1918	1,211,092,000	104,182,000	11.62
1919	1,088,146,000	104,847,000	10.38
1920	1,251,982,000	106,381,000	11.77
1921	1,034,606,000	107,785,000	9.60
1922	1,063,154,000	109,184,000	9.74

in terms of weight by the use of well-known factors. The summation in tons represents practically the whole production of the United States. Statistics of the population of the United States by census are available only at decennial intervals, but statisticians have developed nearly accurate methods for computing the population annually for intervening years.

The statistics of production and population become more illuminating if they be separated into agricultural and non-agricultural. This may be done with sufficient accuracy, for we know that according to the census the farm population of the United States changed but little from Jan. 1, 1910, when it was 30,925,000, to Jan. 1, 1920, when it was 31,357,670. If we assume a constant farm population of 31,000,000 and if we assume that the difference between that figure and the total population is non-agricultural, the quotients will be no more than insignificantly out of the way. These computations appear in the two tables immediately following:

PRINCIPAL RAW MATERIALS MINUS AGRICULTURAL

	Production, tons	Population excluding agricultural	Tons per head
1913	929,956,000	66,278,000	14.03
1914	855,974,000	68,194,000	12.55
1915	876,661,000	69,428,000	12.63
1916	976,084,000	70,722,000	13.80
1917	1,014,342,000	72,059,000	14.08
1918	1,001,760,000	73,182,000	13.69
1919	882,954,000	73,847,000	11.96
1920	1,025,502,000	75,381,000	13.60
1921	824,617,000	76,785,000	10.74
1922	843,556,000	78,184,000	10.79

AGRICULTURAL PRODUCTS ALONE

	Principal agricultural products	Population agricultural	Tons per head
1913	183,388,000	31,000,000	5.92
1914	199,796,000	31,000,000	6.45
1915	219,110,000	31,000,000	7.07
1916	188,859,000	31,000,000	6.09
1917	212,694,000	31,000,000	6.86
1918	209,332,000	31,000,000	6.75
1919	205,192,000	31,000,000	6.62
1920	226,480,000	31,000,000	7.31
1921	209,989,000	31,000,000	6.77
1922	219,598,000	31,000,000	7.08

The above tables do not indicate any increase in productivity, but rather the opposite. Attention should be drawn to misapprehensions that may result from annual comparisons. Thus the output of minerals and metals may be swollen in one year by intense

production for the replenishment of depleted stocks. Production may show a statistical increase at the expense of quality, as in 1917–18 when a good deal of slate was dug and sold as coal. An industrial depression, as in 1921, leads to a shrinkage of production. In agricultural production the benign or malign influences of the weather are explanations of great changes from year to year.

A good deal of the annual variation in agricultural production is ascribable to changes in the acreage cultivated. Thus, there was a maximum of 51,482,000 acres seeded to winter wheat in the fall of 1918. In the fall of 1921 the acreage was 47,611,000 and in the fall of 1922 it was 46,069,000. The total wheat area of the United States in 1923 is around 58,200,000 acres, compared with an average of 47,097,000 acres in the period 1909–13. The ability to cultivate such a greatly increased area may be ascribable to increased mechanicalization of farm work, by the use of tractors, automobiles, etc., but that may not be deduced with certainty. There is a good deal of elasticity in farm work, and in the ability of farm labor to do considerably more or less even with manual and animal work. But if increased mechanicalization has really played any important part in agriculture there is evidence indicating that it has not offset the effects of land impoverishment. In 1909 the average yield of wheat in the United States was 15.44 bu. per acre. In 1909 it was 12.93 bu. In three great wheat growing states—Minnesota and the two Dakotas—the average in 1919 was but little more than half that of 1909. Impoverishment of the land implies, of course, the obligation to do more work to make the same production.

Substantially the same thing is to be observed in the statistics of important metal mining companies, which function in a highly mechanicalized industry, perhaps the most perfectly mechanicalized of any. Also in the railway statistics something of the same order is discernible. Data of railway traffic are given in the following tables:

Year	Tons of original freight	Net ton miles	Passenger miles	Transportation service train miles
1916	1,203,367,190	396,365,917,082	34,585,952,026	1,224,168,566
1917	1,264,015,725	430,319,014,635	39,476,858,549	1,237,137,632
1918	1,263,343,993	440,001,713,665	42,676,579,199	1,175,782,791
1919	1,096,111,271	395,679,051,729	46,358,303,740	1,117,547,908
1920	1,255,420,991	449,125,000,000	46,847,534,000	1,190,444,000
1921	940,182,560	344,911,000,000	37,338,959,000	1,075,451,000
1922	1,023,109,578	375,617,000,000	35,507,222,000	1,085,751,000

Railway traffic in terms of ton-miles, if represented by 294 in 1913, was 338 in 1922. We have been constrained, or led, or both, to move our freight a greater distance during the last few years. For a series of years previous to 1915 the average haul was steadily about 154 miles. Beginning in 1915 there was an increase and in 1920 the figure had risen to 181 miles, the average for 1921 being about the same. The causes for this are not well understood, but anyway it is not to be construed as a favorable economic factor. However, the railways were operated by about the same number of men in 1921 as on the average just before 1915. The ability of the railways to do more work without increase in personnel is wholly ascribable to managerial improvements, for the efficiency of labor has

decreased. In pre-war years there was about 1.37 man per 1,000 train miles. In 1919 this factor had risen to 1.71. In 1921 it had been reduced to 1.52

The number of transportation service train miles effected per railway employee is shown in the following table:

	Transportation service train miles, total	Per employee	Index of train miles per employee(*a*)
1916	1,203,367,190	731	102.1
1917	1,264,015,725	749	104.6
1918	1,263,343,993	686	95.8
1919	1,096,111,271	573	80.0
1920	1,255,420,991	621	86.7
1921	940,182,560	566	79.1
1922	1,023,109,578	648	90.5

(*a*) Average of 1912–14 is taken as the base = 100.

These data indicate diminishing efficiency of labor, more or less offset by increased efficiency of management, which is however constrained to contend against some increasing adversity necessitating the moving of freight more miles.

The physical volume of our foreign trade, as computed by the Federal Reserve Board, may be taken as a rough indication of the general trend of our foreign commerce, the factors of price having been eliminated.[1] These data are given in the table on page 80.

[1] The Federal Reserve Board index of exports is figured by dividing the aggregate value in "1913 dollars" of 29 commodities for any period by the value of the same commodities exported during an equal average period during 1913. The index of imports is computed in the same way but is based on 27 commodities. The 29 export commodities constituted 56.3 per cent of the total export values for 1913, while the 27 import commodities constituted 49.3 per cent of the total import values for 1913.

INDEX OF EXPORTS—(1913 = 100)

	1913	1919	1920	1921	1922
1st quarter	94	106	114	106	95
2nd quarter	81	133	101	101	104
3rd quarter	92	105	92	125	96
4th quarter	133	114	123	104	110
Average for year	100	115	108	109	101

INDEX OF IMPORTS—(1913 = 100)

	1913	1919	1920	1921	1922
1st quarter	113	131	220	134	183
2nd quarter	96	175	187	138	179
3rd quarter	95	184	160	121	193
4th quarter	96	184	109	149	200
Average for year	100	168	169	136	189

The above tables show that not even in 1919 had the physical volume of our exports risen hugely above the average for 1913. The physical volume of our imports on the other hand has been in recent years largely above the pre-war level.

In the production of houses the record of the last 10 years is in no way satisfactory. The common statistics on this subject are quite misleading, in that they are expressed in terms of dollars, not in terms of quantity. Moreover there is no consistent set of statistics with respect to this subject running far back. I have developed the following estimates from Bradstreet and Dodge.

The accompanying table is at first sight surprising in its showing that in recent years, notwithstanding much talk about a building boom, we have actually been doing less construction than previous to the war. Refer, however, to the statistics for the consumption of building materials (see Chapter VII) and the same thing will be found to appear there. In Chapter I there are also some illuminating statements in regard to this subject.

SQUARE FEET OF BUILDING IN THE U. S. EXCLUSIVE OF PUBLIC WORKS AND PUBLIC UTILITIES (BRADSTREET THROUGH 1918, DODGE FROM THEN ON EXCEPT IN ADDITIONS, ALTERATIONS, ETC., WHERE BRADSTREET'S CARRY THROUGH)

Year	Cost per sq. ft.	Total cost new construction. Millions of dollars	Total new construction. Millions of sq. ft.	Total cost additions, alterations, repairs, etc. Millions of dollars	Total additions, alterations, etc. Millions of sq. ft.	Total U. S. construction. Millions of sq. ft.
1909	$2.036	$1,839	903	$340	167	1,070
1910	2.101	1,745	831	336	160	991
1911	2.079	1,653	795	398	191	986
1912	2.144	1,782	831	391	182	1,013
1913	2.166	1,587	733	468	216	949
1914	2.101	1,415	673	422	201	874
1915	2.144	1,305	609	351	164	773
1916	2.491	1,750	703	578	232	935
1917	3.032	1,190	392	418	138	530
1918	3.357	658	196	312	93	289
1919	3.7158	2,745	739	635	171	910
1920	4.8494	2,511	518	861	178	696
1921	4.8520	2,498	515	770	159	674
1922	4.8027	3,666	763			

The building that we do annually is not of clear gain, for we are constantly losing old buildings by fire, obsolescence or demolition. A comparative study of the statistics of new building construction along with increased population shows that in late years the additions have fallen short of the requirements of the growth in population. In other words there has been a cumulative shortage. In my "Wealth and Income of the American People" I showed how there used to be normally a surplus of houses, and how the housing

situation did not become acute until that surplus had been exhausted. Obviously we cannot expect ease and comfort in housing until we begin again to have a surplus, for rent, like other things, conforms to the law of supply and demand. Since the armistice, however, we have failed to build as much as is pressingly needed, much less to make any start upon reaccumulating a surplus.[1]

The capital savings of the American people since 1918 are represented in the main by the following data (in terms of millions of dollars).

	1919	1920	1921	1922
Export of new capital (*a*)	301	464	596	652
Railway improvements	.....	551	435	440
Houses and other buildings	2,745	2,511	2,498	3,666
Totals	.....	3,526	3,529	4,758

(*a*) According to the Guaranty Trust Co.

Total for 1920–22 is 11,813
National income for same years, 186,000
Percentage invested, 6

The totals are incomplete in that they do not include what was put into public improvements, public utilities and industrial plant. Investments under those heads are relatively small, however, and there is no reason to suppose that the total savings of the American people during the last three years have been in excess of 7 or 8 per cent of the income.

In my "Wealth and Income of the American People" I estimated the national wealth at the ends of 1916 and 1920 as follows, in billions of dollars:

	1916	1920
Internal	268.4	272.8
External	0.3	17.8
Total	268.7	290.6

[1] Reference may be made to remarks on this subject on p. 13.

At the same time I expressed the opinion that the external credits at the end of 1920 were a very doubtful asset. That opinion has certainly been confirmed by subsequent events. The funding of the British debt to us is on the basis of a reduction of "present value." The French government has recently declared that France can not pay her debts unless she can collect from Germany.

The American people did not add to their wealth by virtue of war so much as they would have done normally if there had been no war. In point of fact it is doubtful if they added anything. Any idea that we grew rich out of the war is preposterous. Warfare is no device for a people to grow rich, anyway not under modern conditions.

I find no evidence in the statistics of national production or accumulation of wealth that the efficiency of the American people has so increased during the last 10 years as to afford them an enjoyment of a higher scale of living on the whole. The evidence points rather to failure of production to increase commensurately with the population. There are some ominous indications that improvements in mechanicalization and management have been doing no more than offset increasing adversities of nature, and perhaps not even that. The data of the Federal Reserve Board show that the fiscal volume of our exports has not increased, while our imports have increased. In 1912–14 the excess of our exports over imports was about $500,000,000 per annum. In the fiscal year ending with June 30, 1923, it was only about $175,000,000 of inflated value.

In manufactures our production has increased greatly in some things, *e.g.*, automobiles, electrical apparatus,

telephones, etc. In other things, with equal certainty, it has decreased, *e.g.*, railway equipment and fabrications for house building. The construction of railways and houses has been at a diminishing rate.

It is difficult to determine the comparative manufacturing activity in 1913 and 1922 in the aggregate. In mining, railway transportation and building we have positive evidence of diminished efficiency of labor, which in the aggregate is not offset by the improvements of management, or but barely. There remains but manufacturing as the other great branch of producing industry, apart from agriculture. We have available the census figures of manufactures for 1914 and 1921, but these are expressed in terms of value, with no quantitative indication, and there is apt to be confusion in such census studies anyhow. However, we may put some reliance upon the census reports of the number of wage earners, which show the following:

	1914	1921
Wage earners, number	6,986,000	6,947,000
Wages paid	$4,067,719,000	$ 8,200,324,000
Average per person	$582.27	$1,180.41
Salaried employees	963,000	1,138,000
Salaries paid	1,274,438,000	2,563,118,000
Average per person	$1,323.40	$2,252.30
Total employees	7,859,000	8,085,000
Total wages and salaries	5,342,157,000	10,763,442,000
Average per person	$679.75	$1,331.29

It appears therefore that the wage earners in 1921 were a little fewer than in 1914, while the total number of employees (including the salaried men) was a little greater. Both 1914 and 1921 were years of industrial depression, which was far more serious in 1921 than in 1914. Allowance must be made for these conditions.

Now the National Industrial Conference Board has shown that in 3,800 manufacturing plants representing 26 major industries and accounting for upward of 25 per cent of the workers in those industries, between the middles of 1914 and 1920 the nominal week of work was reduced from 55.1 hours to 50.7, a sacrifice of nearly 10 per cent. The reports of the Department of Labor of the State of New York show that the number of workers in the factories of that state was no greater in 1922 than at the middle of 1914, and was less in 1921, which is substantially a confirmation of the census figures, the manufacturing industry of the State of New York being large and widely diversified, and therefore probably a good sample of the whole country.

If then, along with the substantial increase in population, there were no more workers in factories in 1922 than in 1913, and if they were working nearly 10 per cent fewer hours we should have to imagine a vast improvement in managerial efficiency and a great increase in mechanicalization in order to have had even the same production, not to speak of increased production.

In some industries that has without any doubt occurred. Thus in the manufacture of automobiles and the tires for them the output per man has greatly increased. Both of these are relatively new industries and the opportunities for development were great. In other industries also there have undoubtedly been improvements but not so great as in those previously mentioned. On the whole, however, it is extremely doubtful that production has been maintained at a rate high enough to give the people of this country the

same quantity of manufactured goods per person as in 1913. If the contrary should appear to be the case it will probably be found to have been at the expense of houses, railways and other necessary things that have been neglected as the data for savings and investments in new capital clearly show.

CHAPTER VII

HAS OUR SCALE OF LIVING IMPROVED?

The expression "scale of living" is preferable to "standard of living." The latter implies something that is set up as a basis, that ought to be enjoyed. It associates itself with the "living wage." Of course there can be no such thing as the same standard of living for all the people of a country, nor will they ever be in enjoyment of the same scale of living. The town dweller has necessarily a different standard from the country man, the college professor from the ditch digger. We may, however, talk rationally about the scale of living in a country as a whole and among its classes of people. I am not intending to be oracular upon this subject, but rather, to examine conditions of the present as compared with pre-war, and especially with respect to the United States. As for Europe there is no question about the scale of living of the people having deteriorated in more or less degrees in every country, certainly the most in Russia and possibly the least in Great Britain and France, but I am frank to say that the last remark reflects my conjecture rather than my knowledge of facts.[1]

[1] A rather large percentage of the people of Great Britain are being supported by doles, *i.e.*, directly at the expense of other people, which is of course a highly uneconomic state of affairs, resulting from unemployment. The people of France have been well employed and have been fairly productive. So far as I know the position of the people in no other country has been statistically examined by the method proposed in this chapter.

We are assured by many persons who speak prominently that the scale of living of the American people has been raised during the last 10 years. The president of the Chamber of Commerce of the United States of America asserts that and the president of the American Federation of Labor proclaims that wage earners will not consent to revert to anything inferior to what they enjoy now. Let us subject these statements, beliefs, or whatever they may be called, to some tests.

If our income, or our wages, expressed in dollars, go up and the prices of the goods and things that we want do not go up we come into the enjoyment of a better scale of living; for obviously we can have more goods and things, and it is that ability that constitutes, or determines, a scale of living.

If, however, the goods that we want are impaired in quality in order that we may obtain them at the same price as formerly we may not be any better off than we used to be. Even may we be in a worse position. Thus, if a man used to earn $6 per day and with a day's pay obtained a pair of shoes that would last him a year he is in an unchanged economic situation if his wages having been raised to $12 per day he has to pay $12 for the shoes; or if he be offered and buys shoes for $6 that last him only half a year.

The last is a condition that may be overlooked. Yet it is a matter to be seriously considered. We hear from all quarters the comment that "goods are not what they used to be." Some one examines an old, well-preserved automobile and comments "You can't get such materials now." Some one else observes a new house in course of erection and says contemptuously that it is even more jerry-built than such houses used to be.

I have here remarked respecting a major economic condition that has received but slight attention. The consumer may be conscious that the clothing that he buys is made of shoddy material that will not last long, while he is ignorant that the storage battery that he puts upon his automobile is destined for a life of only one year, constraining him to buy a new one every year instead of every two years as formerly; and still less does he appreciate that the modest house that he builds at great cost is relatively soon going to cause him to incur large bills for its upkeep.

Due consideration should be given to such conditions in examining whether the scale of living of the American people has, or has not, advanced. This is an extraordinarily complicated question and much less than undertaking to answer it finally I am intending rather to offer some suggestions respecting it and to present some statistical data bearing upon it.

Without any doubt the American people as a whole have the use of more telephones and more electric appliances, of more automobiles, the pleasure of new amusements such as moving pictures and radiotelephony, and the more enjoyment of the luxury of leisure. All of those things intimate an advancement in their scale of living.

On the other hand housing is admittedly inadequate, railway travel is less comfortable, the annoyances of freight congestions are now and then experienced, the conditions of urban transportation are bad and growing worse (especially in the city of New York), and school facilities are admittedly insufficient.

We have, potentially at least, an abundant supply of wheat and corn, and consequently of meat; also of bitu-

minous coal. But we do not get enough anthracite coal, whatever be the reason. Until petroleum is satisfactorily adapted to use as domestic fuel it looks as if the eastern part of the country will be poorer in that respect. Our supply of lumber diminishes. To a certain extent iron and steel and cement take the place of lumber, but for some purposes the latter is indispensable and the diminishing supply of it is contributory to the high cost of houses and therefore to the inadequacy thereof.

It is such things as these that determine the scale of living of a people. The enjoyment of a greatly increased national income expressed in dollars may not be helpful at all. Money is merely the medium for the exchange of goods. The real question is how much goods have we to divide, not how many dollars.

A secondary question is how we divide the goods that we possess. The economic factors that naturally determine that are so complicated that no body of men can even hope to have the intelligence to regulate them. In trying to do so muddles are sure to ensue. When economic factors were allowed to operate freely a natural equilibrium resulted. Unbalancing of those factors by economic interferences may produce the situation wherein half the people may enjoy an improved scale of living while that of the other half is impaired. Something like that is being experienced in the United States at the present time.

In the consideration of this subject we must also take cognizance of the far reaching effects of the prohibition of alcoholic drink. I do not think there is any doubt about its having been of economic benefit, although I am opposed to the whole thing, or rather the way it

was brought about, as an infringement upon liberty. Nevertheless, there must be economic account of that development, just as of the introduction of cord tires and tungsten lamps and improvements in business organization, which exemplify the real factors that enable a people to attain a higher scale of living.

This subject may be most intelligently examined through the statistics of production and consumption. The production statistics, which have been summarized in a previous chapter, give only a partial picture; for there are some commodities whereof we produce a surplus that we export, obtaining in exchange for them other commodities, such as sugar, rubber, silk, flax, coffee and tea that we do not raise at all, or else but inadequately. It is therefore the statistics of consumption to which we need to refer in order to form a true idea respecting our seale of living.

Such statistics are not easily available. It is only with respect to relatively few commodities that we have data of the *deliveries for* consumption, which is a different thing from *consumption* itself. If we should make comparisons for single years, *e.g.*, 1913 and 1922 we should arrive at misleading results, which I know from trial. If, however, we take averages for a series of years we shall do a good deal to iron out irregularities and even statistics of production of commodities that are wholly used at home may then be closely representative of true consumption. I have selected for comparison the three years 1912–14, as the period immediately before the war, and the three years 1920–22 as the period immediately following. These two groups of years therefore represent the beginning and end of a momentous decade.

The data for consumption are based on the reports of the U. S. Geological Survey, the U. S. Department of Agriculture, the American Iron and Steel Institute and the American Bureau of Metal Statistics. Such of the data as was originally expressed in terms of bales, bushels, barrels, thousands, etc., have been converted into terms of weight by the use of well known factors in order to have a uniform expression in pounds. Wherever the authorities cited have computed consumption their figures for it have been used. Where no such computations have been made I have done them myself, adding production and imports and deducting exports. Wherever there have been data for stocks, allowance for changes in them, plus or minus, between the beginning and end of the years, has been made. This is the conventional statistical method of computing consumption, but in reality it gives deliveries for consumption rather than actual consumption. However, the differences between those two heads are probably immaterial in the present consideration.

In some instances, such as stone, clay and a few other rough commodities for which only production figures are available the same have been taken as equivalent to consumption, which doubtless is near enough. I have divided the consumption in each year of the two triennial periods by the population at the middle of the year and have computed the arithmetical average of the quotients. In considering the data in the accompanying table some allowance must be made for error in the original statistics, but with respect to all of the principal commodities such errors as there may be are surely immaterial.

In the instance of some commodities, the metals especially, there is a good deal of use for the domestic manufacture of goods that are subsequently exported. Statistically this is commonly reckoned as a domestic consumption. Of course it should not be so reckoned theoretically, but in general the available data do not enable the statistician to go any further. My own computations are made in conformity with this general statistical practice, except that in the instance of copper deduction is made of our exports in the form of rods, wire, sheet, etc., which deduction gives us more nearly the domestic consumption of this metal. Our exports of zinc and lead in manufactured forms are relatively small, but our exports of manufactures of steel are large.

CONSUMPTION OF THE PRINCIPAL COMMODITIES IN THE UNITED STATES, IN POUNDS PER PERSON

	1912–14	1920–22
Building materials		
Lumber	1,586.1	1,122.7
Cement	324.0	355.0
Gypsum	61.0	67.0
Sand and gravel	1,602.0 (*g*)	1,594.0
Stone	1,907.0	1,380.0
Clay	57.2	50.6
Lime	72.0	60.0
Common brick	498.0	307.0
Firebrick	62.1 (*j*)	62.5
Silica brick	12.7	14.2
Metals		
Steel, rails	59.5	40.6
Steel, wire rods	56.9	49.8
Steel, plates and sheets	115.8	133.4
Steel, tin and terne plate	19.6	22.0
Steel, total	631.4	639.6
Iron	632.3	564.0
Copper	6.9	8.6
Lead	10.4	11.7
Zinc	6.4	6.8
Tin	1.1	1.2

	1912–14	1920–22
Fuels		
Coal, hard	1,737.0	1,380.0
Coal, soft	8,946.0	8,136.0
Water power (*a*)	171.0 (*b*)	408.0
Fuel oil (*a*)	257.0 (*b*)	840.0
Total fuel	11,111.0	10,764.0
Petroleum, total	732.0	1,425.0
Cereals		
Corn	1,536.0	1,531.0
Wheat	360.0	340.0
Oats	399.0	368.0
Barley	86.0	63.0
Rye	21.0	20.0
Rice	14.0	16.0
Meat		
Beef	61.4	60.3
Veal	5.5	7.8
Mutton	7.7	5.4
Pork	71.0	75.4
Total dressed meat	146.8	149.0
Edible offal (*c*)	26.9	28.4
Lard	11.7	12.8
Other foodstuffs		
Potatoes, white	241.3	225.4
Potatoes, sweet	29.3	48.3
Apples	103.7	76.9
Milk	801.6	853.1
Eggs	21.5	25.1
Poultry	16.8	19.3
Sugar	85.9	99.0
Luxuries		
Tea	1.0	0.8
Coffee	9.4	12.0
Tobacco	6.3	7.7
Cocoa, crude	1.5	2.8
Fibers		
Cotton	29.0	26.8
Wool	5.2	5.5
Silk natural,	0.32	0.48
Silk, artificial,	nil	0.27
Miscellaneous (*d*)	8.7	6.6

	1912–14	1920–22
Miscellaneous goods		
Rubber	1.9	5.0
Flaxseed	16.5	13.8
Hides and skins	13.2	11.9
Wood pulp	68.8 (*i*)	80.7
Minerals and chemicals		
Phosphate rock	40.6	42.1
Fertilizer (*e*)	141.3	106.3
Salt	97.3	116.4
Sulphur in brimstone	6.1	17.8
Sulphur in pyrites (*f*)	11.9	4.1
Total sulphur	18.0	21.9

(*a*) Coal equivalent. (*b*) Approximate only. (*c*) A term used by the Department of Agriculture to comprise such parts of slaughtered animals as liver, heart, heads and tails, etc. (*d*) Flax, hemp, jute, sisal, etc. (*e*) Computed from data given by the *Wall Street Journal*. (*f*) Estimating the average sulphur content of pyrites at 40 per cent. (*g*) Production in 1912 estimated. (*h*) Estimated from data given by the *Electrical World* and the *New York Times*. (*i*) Computed for years 1910, 1911 and 1914, data for 1912–13 being unavailable. (*j*) Computed from data for 1913–14 only.

In all building materials there was a diminished supply and a diminished consumption, except in the instance of cement. This positive exhibition confirms the statistics of building construction, which show substantially the same thing. The increase in the production and use of cement is attributable to increased highway construction, for which cement has come to be largely employed. The same kind of decrease is observable in iron as in the other building materials, notwithstanding the greatly enlarged consumption of steel for the manufacture of automobiles, which industry in 1922 absorbed about 10 per cent of the production, a far higher proportion than in 1913. It is to be remarked further that there has been a greatly increased use of steel in the petroleum industry, which is closely associated with the operation of automobiles.

The increased consumption of copper is perfectly explained by our knowledge that the last decade has been a period of great electrification and of great expansion in the use of the telephone. Moreover, the automobile manufacturing industry has become a great consumer of copper, about 15 per cent of the consumption in 1922 having been for that purpose. The increased consumption of zinc is explained partially in the same way, for zinc as a constituent of brass is used extensively in connection with copper. However, the use of zinc has not increased in the same ratio as copper owing to diminished consumption of it for the coating of iron and steel, which is building material.

The increased consumption of lead per person is also explained by the electrical and automobile industries, two of the major uses for lead being as casing for electrical cables and the manufacture of electrical storage batteries. Of the latter about five-eighths are now for automobile operation. If we should segregate these uses of lead we should probably find a diminished consumption per person for all other purposes. The consumption of lead for pigment is a complicated study owing to the varying substitution of other pigments, such as those of zinc and barium.

The building materials, including the metals, are used mainly for the production of capital goods or producers' goods, in brief for goods other than for immediate consumption. To a certain extent some of them are very closely associated with consumers' goods. Thus, nobody eats, burns or wears iron, but about 5 per cent of the production of steel in 1922 was used for food containers and in the main was consumed in fulfilling that purpose. However, such uses of the

metals and building materials are relatively minor, their chief uses being for the construction of houses, railways and industrial plant. Their diminished use for such purposes corresponds roughly with the decline in savings and investment that is shown by the financial statistics.

In fuels there are some interesting exhibitions. The subject is complicated by the nature of the uses and the important changes that have been occurring during the last decade. Obviously there can be no intelligent consideration of this subject unless it be viewed as a whole, not merely with respect to coal, or any other single thing.

Fuel is used mainly as a means for obtaining light, heat and power. It may be used primarily for the generation of power and then the power itself may be employed for lighting and heating. A considerable proportion of coal consumption is for the production of illuminating gas, in which form it is used directly for lighting. A portion of the coal consumption is for still another use, *viz.* as a metallurgical reagent. A complete analysis of these uses would be laborious and complicated.

Coal, both anthracite and bituminous, has always been our main fuel, and especially bituminous coal. The use of anthracite, which is produced only in Eastern Pennsylvania, occurs mainly in the northeastern part of the country. In that territory it is used in its larger sizes as a fuel for house heating; in its smaller sizes for industrial purposes. For the latter the small sizes of anthracite are in direct competition with bituminous coal, or vice versa.

During the last 10 years there have been phenomenal increases in the use of hydro-electric power and petro-

leum. I introduce those uses into my table by computing the coal equivalent of each of them. Thereby the consumption of hydro-electric power, which is expressed originally in terms of kilowatt hours, is by me for present purposes expressed in terms of pounds of coal. Similarly is expressed the use of fuel oil, which is originally reported in terms of barrels. These transformations involve certain engineering generalizations, and possibly some error, but the extent of the latter, if there be any, will be immaterial.

My table also shows the consumption of petroleum per person, expressed in pounds. This figure comprises the American consumption of petroleum in all forms and for all purposes, *viz.* as fuel oil, lubricating oil, kerosene, and gasoline. The great increase in the consumption of petroleum is ascribable partly to the more extensive use of it as a fuel, in substitution for coal, but mainly to the greater use of gasoline which is directly attributable to the automobile.

These statistics show a greatly diminished use of anthracite coal per person in 1920–22 as compared with 1912–14, a greatly diminished use of soft coal and on the other hand great increases in the coal equivalents of water power and fuel oil. In the aggregate there was a small diminution in the consumption of fuels. This might be in part ascribable to improvements in the generation of power from coal, which without any doubt have been of an important nature during the last decade. Whatever there may have been in that way however is not wholly a net gain, inasmuch as it has been partially offset by the charges on the capital invested to effect it. It may be further remarked that the substitution for hydraulic power for coal is not clear

gain. Hydraulic power is rendered available for consumption only with great capital outlay.[1] There is but little hydraulic power available in bulk in the United States at less than four mills per kilowatt hour. In the largest modern steam plants power can be developed as low as six mills per kilowatt hour even with present prices for coal.

The evidences of diminished production and diminished consumption of anthracite are positive. The rise in the price for that fuel is more or less a reflection of the conditions of supply and demand.

In considering the consumption of food stuffs we must of course bear in mind that the major part of the use of corn is for feeding animals on the farm, whence it is marketed after transformation into beef and pork. The consumption of oats is largely by draught animals. In 1912–14 a large part of the use of barley was for the brewing of beer, which in 1920–22 was greatly curtailed by the Volstead law, that had then come into effect. Of the most important cereal for human consumption—wheat—there was a smaller supply per person in 1920–22 than in 1912–14.

Of meats and lard there was an increased consumption. Among the other food-stuffs there was a decreased consumption of white potatoes—a cheap food—and decided increases in the use of milk, eggs, poultry and sugar. There was a decreased use of

[1] According to the engineers who conducted the super-power survey in the New England and Middle Atlantic States, a coordinated and fully developed electrical power system can be developed in those 11 states which would save about 50,000,000 tons of coal per annum, effecting an annual saving of over $500,000,000 for a capital outlay of about 1¼ billion dollars. This gives an idea respecting correlation between fuel economy and capita outlay.

apples, but I conjecture that if there were statistics available for the other fruits they would show increase.

Among the things that I have classed as luxuries, coffee, cocoa and tobacco were in greatly increased supply and use, while of tea we did not consume so much.

Of the fibers, which constitute our main clothing material, we had much less cotton in 1920–22 than in 1912–14. The amount available for clothing was even more curtailed than the quotients indicate, for in the later period a greatly increased proportion of this fiber was being taken for the manufacture of automobile tires. Our use of wool increased about 20 per cent while that of silk was 50 per cent greater. It may be remarked incidentally that during this period there was a great expansion in the domestic manufacture and use of artificial silk.

Of hides and skins, the source of our leather, we did not have so much in 1920–22 as in 1912–14.

Speaking generally, we appear to have used less of the rough foods, such as wheat and potatoes, a little more of meat, and a good deal more of the highly palatable things like poultry and dairy products and sugar. So also as to the luxuries. We may discern the same thing in the clothing material, whereof we used more wool and silk and less cotton. These disclosures may be a reflection of the greater returns to wage earners, enabling them to buy more costly food and better clothing. However, the statistics of the consumption of these commodities can hardly be regarded as evincing any great improvement in the scale of living even in the matters of food and clothing.

In the list of miscellaneous commodities there have been changes which generally are easily explainable.

The consumption of phosphate rock, and of fertilizers into which phosphate rock enters, diminished seriously. The consumption of sulphur in brimstone increased greatly while that of sulphur in pyrites decreased. Well known industrial conditions caused a substitution of the sulphur of brimstone for the sulphur of pyrites. Combining the two forms of sulphur consumption, the figures are 18 for 1912–14 and 21.9 for 1920–22. This implies an increased consumption of chemical products. The increased consumption of salt implies the same thing. Brimstone is used extensively in the manufacture of wood pulp, the consumption of which increased. This means increased enjoyment of newspapers, increase in newspaper advertising, etc., all of which is rather a difficult subject to analyze.

In general, this statistical study of the consumption of commodities in the United States bears out the previous conjecture, or deduction from other data, that on the whole the people of the United States were not in the enjoyment of so good a scale of living in 1922 as they had in 1913. The manner in which these data coincide with other data of totally different character, but of economic nature, is impressive.

The consumption of building materials shows a decrease. The building of houses and other structures expressed in terms of square feet of construction shows the same thing. We may see it also in the data for pig iron. The decreased use of that metal, together with the decrease in other building materials, matches with the decrease in the building of railways and municipal tramways, the equipment thereof and the deterioration of upkeep. This is shown in the statistics for railway construction and for locomotive and car building.

We get another reflection of the same thing in the financial data of our savings and capital investments. Indeed all of this is like seeing an object in the several parts of a folding mirror. In each section the reflection is of a different view, owing to a difference in angle, but all of the images are obviously of the same thing. There can be no shadow of doubt respecting the conclusion that in the matters of houses and other buildings (such as schools) and in the means for transportation we were not so well off in 1922 as we were in 1913.

Next to shelter, the most important things in the common life of a person are clothing, fuel and food. We did not have so much of the principal fibers, nor so much leather, in 1920–22 as in 1912–14. In other words, we were not so well off with respect to clothing material. With respect to food the figures are more confusing, and at the same time interesting. We may deduce that the scale of living of the people as a whole improved in the matter of food, not only in the quantity thereof, but also in the character. This may be construed as a reflection of the unbalancing of the previous division of the national income, which gave a larger share to the wage earners and enabled them to eat more and better. This was at the expense of housing and means for transportation, which are provided out of savings. Here again the evidence appears to fall in with other economic data. We shall see the same thing in other matters.

Thus we see the increased luxury of automobiling in the larger consumption of gasoline and rubber; the increased luxury of reading matter in the larger consumption of wood pulp; the increased luxury, or improvement of the scale of living, in the larger consumption of copper and zinc, reflecting more extensive

use of the telephone, electric lights, and electrical appliances generally. The statistics for telephones, electric lighting, etc. show the same thing.

There are some things in the consumption statistics that are not so easily explainable. I find it difficult to account for the diminished use of soft coal, even after making allowances for the substitution of waterpower and fuel oil. It is probably partially ascribable to engineering economy. On the other hand I am puzzled by the increased consumption of salt and sulphur which imply increased consumption of heavy chemicals. However, whatever be the explanation, it is undeniable that we experienced improvement in that particular.

These results are of the order that would be anticipated. It would not be expected that there would be either improvement or impairment in all things. There would be naturally irregularities, indicating better living in some particulars and poorer in others. We must therefore decide how we stood on balance. My own judgment is that we did not stand so well in 1922 as in 1913, there having been impairment in major things, except in food, and improvement only in the luxuries in the main. Moreover it is probable that the enjoyment of luxuries fell especially to the people living in towns, rather than to the people as a whole.

Of course it is obvious that the quantities and quotients computed for consumption do not necessarily measure the limits of supply. In some instances they do; in others they do not. In the matter of anthracite coal, for example, we used all that we had and paid very high prices for it. In the matter of fertilizers on the other hand, we might have had and might have used

greatly increased quantities if we had so elected. The plants in this industry are estimated to have a capacity for producing 10 million tons of commercial fertilizer yearly, and we have bountiful supplies of the phosphate rock and sulphur with which to aliment them. Commercial fertilizers are principally used by the cotton growers of the South, who were in a bad position in 1922 and consequently used only about two thirds of the quantity of fertilizers that they did in 1920. This illustrates very well how the data for consumption are correlated. We may enjoy some commodities at the expense of others. In drawing conclusions we ought to concentrate attention upon the final expressions. Thus, we should consider the consumption of cotton which is a direct measure of an important material available for clothing rather than the consumption of fertilizers which contribute to the production of cotton.

The question whether the American scale of living has been improved or impaired may be illuminated by a homely consideration of the affairs of several typical classes of people. We may dismiss the very rich, who have been but little affected, and besides they are a mere handful of the people. They have as good housing, clothing, food and domestic service as they used to have. However, even the very rich are constrained to use the same railways and means for municipal transportation as other persons, and they do not find them so good as they were.

We may begin our consideration with a man of $20,000 income, who will be typical of professional men, the upper class of business and banking executives, etc. During the last 10 years the salaries and gross earnings of such men have increased but little, barring that which

naturally follows from advancing years and experience. Persons of this class generally had automobiles 10 years ago and have gained nothing in that respect or in other comforts. They find themselves now constrained to give up $1,600 per annum for federal income taxes and perhaps $400 for other taxes. Their expenses in every direction have risen anywhere from 50 to 100 per cent. Such a family formerly enjoyed the help of two or three servants. Many of them are now reduced to one or none at all. They see their houses falling into disrepair, through sheer inability to maintain them properly. Their ability to save has vanished. This class is in the lower range of what is graphically characterized as the "poor rich." There is no doubt that it is not doing so well nor living so well as 10 years ago. However, this class also constitutes scarcely more than a handful of the total.

On the basis of the income tax payers of 1916 we may go down to the dividing line of incomes of $3,000 per annum in that year and find that there were not so many as 2 per cent of the people possessing incomes of that amount or more. In going down to that level we shall find the same impairment in the scale of living that we have observed on the way down from the top, but the lower we go the more acute is the adversity. In other words while a family with a $20,000 income was not so well off in scale of living in 1922 as in 1913, a family with a $3,000 income was in a situation relatively much worse.[1]

If economic conditions were in the old equilibrium we should expect to discover such changes for the worse

[1] For the purpose of classification I am here using the incomes of 1916 as a scale. In general the $3,000 salary of that year was higher in 1922, but there has been so much irregularity as to this that it seems better to revert for a scale to a year before the derangement became chaotic.

exhibiting themselves in increasing degree down to the lowest stratum. The economic equilibrium having been disturbed, however, the change in the ratio of division of the produce of industry occurring somewhere around the line of the income tax payers of 1916, we may expect consequently to discover a reversal of experience, at least partially, below that line.

In the great mass of people possessing incomes of less than $3,000 in 1916 there may be made some clear-cut classifications. Primarily there is a division between the farm population, which numbers about one third of all, and the urban and suburban population. The latter comprises what is commonly called "labor" and the small merchants, clerks, public servants and others who may be generalized as the "white collar" classes.

I do not think there can be much doubt that the scale of living by the farmers on the whole was lower in 1922 than in 1913. As a class they did not suffer from shortage of shelter and probably not much from shortage of food, although perhaps they did not have so much luxury under that head. In clothing, fuel and transportation service they were not so well off. On the other hand they came unmistakably into great enjoyment from automobiles, cinematography, radiotelephony, and the phonograph and telephone. We may ask seriously however, whether such enjoyment has not been largely at the expense of their roofs, fences, equipment and live stock and the fertility of their land; in other words at the expense of their principal.

Among the urban and suburban population there is no doubt that the white collar classes have suffered impairment of their scale of living. It is notorious that in general the wages of clerks and public servants have

risen but relatively little; to a far less extent than the general rise in the prices for consumer's goods, which means that they could not have so much of them. Nothing more need be said with respect to the adversity of this class.

Among laborers themselves there are wide differences. The lower classes of labor improved in their living to some extent, especially in their food and clothing. They did not improve in their housing, for there was not enough of the most desirable kind to go around. The position of domestic servants improved immensely, and so did that of artisans, anthracite coal miners and railway employees. All of those classes became able to have such clothing, food, leisure, and amusements, including automobiles, as never before. More and more did they become able to send their children to college and to obtain better professional assistance.

It may be pointed out, however, that even the aristocrats of labor experienced the drawbacks of inadequate housing, inadequate fuel, inadequate school facilities and inadequate means for transportation like everybody else, wherefore perhaps even their improvement in the scale of living is more superficial than real. The impairments that I have mentioned are obvious, except with respect to transportation, which perhaps is not so clear. Some of the ways in which transportation service has deteriorated are these: On many lines convenient trains have been annulled. The running time of others has been reduced. All trains are more crowded. Travellers by Pullman cars are constrained to order their accommodations days in advance. Not infrequently persons are unable to get seats on the trains

and at the times they wish. The greatly increased rates, although proportionately less than for many other things, are a restraint. In the subways of New York the congestion is a vexation to the mind and a torture to the body, which is a condition affecting a large part of our population. Municipal transportation everywhere has deteriorated. Out in the country side of New England many tramway lines have been abandoned and people who used to enjoy their convenience no longer are able to do so. On other lines the service that formerly used to be every half hour is now only once an hour. In other parts of the country, on the other hand, there is improved local transportation by motor bus.

I do not think that many persons will dissent from the charge that our present postal service is inferior to what it used to be. So far as I have been able to make personal observations our express service is less prompt, while certainly it is more costly. Is there not in shopping less attention and less celerity of service? Are we not constrained to dispense with the use and enjoyment of many of the articles in our possession owing to the high cost of repairing them? Surely that is true in households whereof I know.

This analysis, which enables us to visualize the position of our classes of people, is quite in line with the statistics of commodity consumptions. Even those figures fall in with the data showing the disturbance of the old balance in the division of the produce of industry, the consequences of mulcting the rich through surtaxes, and the failure to maintain the necessary national rate of saving. It will be hard to escape from the conclusions that the scale of living of the majority of the

American people on the whole has deteriorated during the last 10 years; that when there are appearances to the contrary it is in frivolous things at the expense of the really needful ones; that much of the quasi-improvement is at the expense of the principal of the very people who are having a good time; that only a relatively small class of wage earners has really improved its scale of living, and that even with respect to them this has been more or less at the expense of the national principal, although not perhaps of their individual savings.

The statistics of commodity consumption will be very illuminating if they be thoughtfully considered. They bring out clearly how it is not dollars that we have to divide, but rather pounds of goods. The exchange of dollars for them is merely a means to effect the division. If the number of dollars that we use be increased or decreased the quantity of divisible goods is not necessarily changed. Simply we exchange $2 for the same number of pounds of a thing for which $1 formerly sufficed; or oppositely. At least that is what would happen if the new dollar were allocated in the same proportion as the old ones. If not, and if, as unfortunately happens, one class of workers gets proportionately more dollars than formerly they therewith grab more pounds of goods and correspondingly less remains for division among other people. It does not matter materially how much the rich get in dollars, for they can not use for their own consumption much more pounds of cotton, meat, and other commodities per person than other people. Their surplus of dollars in the main is saved in the form of capital goods from which all people benefit. Economic unhealthfulness results from the wasting of surplus, either by rich or poor.

We may now make a rough correlation of some important data set forth in this and previous chapters. Comparing 1922 with 1913 there was no increase in the production of goods in the aggregate, but the national produce in terms of dollars was written up by about 1.7. Labor as a whole obtained a larger share of the goods available by raising its percentage of the national income from about 70 to something more than 80. This was at the expense of property and management. The inroad upon the largest and weakest branch of the capitalistic class, *viz.* the farmers, both impaired their scale of living and led them to live to a considerable extent on their principal. Among the well-to-do of the capitalistic class, say about 2 per cent of all the people, there was also impairment in their scale of living and of their principal, but to a less extent than among the farmers, the chief effect upon them being the curtailment of their ability to save. The last appears in the contraction of the national rate of saving from 15 per cent to about 7½ per cent, and in the diminished production and use of building materials. Even a great deal of the latter has been diverted from the production of capital goods to consumers' goods.

Notwithstanding this perversion, however, there has not been a sufficient increase in consumers' goods, the production and supply of them in the aggregate having been no more per person in 1922 than in 1913. Herein we may find the true explanation of the continuance of high prices. The shorter the supply the higher the price, *e.g.*, anthracite coal. The better the supply the lower the price, *e.g.*, rubber. If the general index of inflation, or writing-up of dollars, be 1.7

there would be the same division of goods as when it was 1 if the incomes of all classes of people had also been written up by 1.7. It appears, however, that for some classes their income has been increased to 2.25 while for others only to 1.25. Obviously, then the former become able to get more goods and of better quality, while the latter get less and of inferior quality. The scale of living of the -1.7 people deteriorates. That of the $+1.7$ people improves *prima facie*, but in the last analysis it does not improve so much as it seems to, or perhaps does not improve at all, for the reason that by the curtailment of the share of property and management in the national income there is a curtailment of savings and the production of capital goods, which in ultimate consequences is most adverse to the wage-earners themselves.

CHAPTER VIII

COMMONSENSE IN EXAMINING OUR PRESENT ECONOMIC POSITION[1]

I propose to address you upon the present economic situation in the United States in the light of what seems to me to be that of commonsense, looking at facts and interpreting their meaning. I am not going to expound any abstract economic principles, although I may incidentally touch upon several. We have gained during the last five years a great deal of knowledge respecting the amount of our national wealth, our national annual income, our living expenses and savings that we did not previously possess. There is much data of such nature that we still need and for which our research men are diligently seeking. With the results of their work we shall every year be able to have a better understanding of current conditions. In the meanwhile the basic data that we have already gained enable us to form clearer ideas than ever before. Incidentally they dispel a great many illusions.

If I should undertake to submit to you our present collection of facts, even in their most concise expressions, my address would be largely statistical and consequently wearisome. I am therefore going to ask you to believe that the statements that I shall make to you are founded on facts. I am an economist who is

[1] A speech to the Industrial Conference of the Y. M. C. A. at Silver Bay, Lake George, N. Y., Aug. 30, 1923.

fundamentally an engineer. The whole tradition and training of the engineer is the ascertainment of facts and coming to conclusions from them.

Of course, everybody knows that ascertained facts are often capable of different interpretations. Economists look at things through glasses of different colors, and the difference thereof has its effects. You may have heard of me being characterized as an exponent of capitalism. Let me say immediately that it is a correct characterization in the broad economic sense. Let us have an understanding about this before we go any further. Economically capitalism means the system whereby goods for further employment in the prosecution of affairs are accumulated by the individuals who are intelligent and thrifty. The antithesis of capitalism as an economic system is socialism. Capitalism is not an advocacy of the concentration of wealth in the hands of a few or a repudiation of the desirability of a wider and wider distribution of wealth. Anybody who owns property that is used for the creation of more wealth, whether he be a magnate, who individually owns a railway, or a farmer who owns land, or a mechanic who owns his tools and uses them, is a capitalist. Here I am indeed touching upon one of the abstractions of economics, but it is necessary for a good understanding of what is going on in the world, even in our own country, at the present time. The United States evinces no tendency whatever to become socialistic, but we are nevertheless in my judgment right now conducting our affairs without an understanding of the need for the creation of more capital goods.

There has been much talk during recent months about maintaining in the United States "the tide of

prosperity" which has seemed to be beginning to wane. There is something grotesque about this, for half the people of the country have been wondering what kind of a tide of prosperity has it been that has not flowed over them. Whatever we have had, leaving the white collar workers and the farmers in discomfort as it has done, it has not been a tide of prosperity. That there has been a great activity in business is undeniable, but industrial activity and economic prosperity are two different things. The desire to maintain the tide of industrial activity may be translated into the wish to maintain fantastic wages for building mechanics and consequently high rents for houses, to continue to starve the railways and enhance the difficulties of transportation, to court the danger of another shortage of anthracite coal next winter, to aggravate the shortage of schools; and in the meanwhile to build more millions of automobiles, to squander more labor on highway maintenance and to promote the enjoyment of the luxury of leisure and the need for amusement by many people who ought to be working. In my judgment this is a cruel, unholy, and surely disastrous program.

Our thoughts will be clarified if we consider the fundamentals of economics. A people maintains itself by work—by nothing else unless the bounty of nature gives it food for nothing and the climate is so mild that shelter and clothing are unnecessary and the people are content to live in such a primitive way. In civilized countries, however, people have to work in order to provide their food, clothing, shelter, fuel, means of transportation, etc., and they have to work somewhat harder than for hand to mouth needs in order to provide for future requirements. In the United States this

necessary surplus, under pre-war conditions, was found by experience to be about 15 per cent.

The need for appropriating annually a proportion of the national work for capital savings is apt to be obscure. A prosperous country has normally a surplus of houses and of transportation and manufacturing facilities, wherefore it may suspend adding thereto for a time, as during warfare, without experiencing inconvenience. We may visualize the need, however, by imagining a nation that had exhausted its native supply of timber and had only what it grew. Annually, then, there would have to be done a certain amount of tree planting, which would not yield timber for, say, 30 years. If this were neglected the time would come when the country would have no timber.

There are several great modifying factors in the welfare of a people. Among the favorable are mechanicalization, whereby men multiply their work by machines, and so increase their production; and economy in use, whereby they decrease their consumption. Among the unfavorable are the impoverishment of natural resources and the tendency of workers to diminish their intensity. A people can improve its scale of living only by causing the favorable factors to exceed the unfavorable.

Irrespective of these basic, determinative conditions a people may wilfully, or ignorantly, depart from the conditions of sound living. It may say, figuratively of course: What is the use of saving? Anyhow, savings appear in the form of railways, houses, factories, which are owned by capitalists. Such accumulations are a part of the capitalistic system. Let us capture the portion of the produce of industry that used to be

saved for such purposes, and let us improve our scale of living and be merry.

Now this is precisely what we have been, consciously or unconsciously, saying and doing in this country. It has been found that, excluding the farmers, labor used to get normally from 65 to 75 per cent of the produce of industry. In recent years it has been getting probably upward of 80 per cent. The share of capital and management has diminished proportionately. It is significant moreover, that savings also have diminished. In other words town labor has captured a larger portion of the produce of industry, has improved its scale of living temporarily (although there may be doubt even as to the improvement) and certainly has been making merry.

All of this may be attended with great industrial activity. No matter whether we are producing capital goods or consumers' goods we are bound to require raw materials and to use labor in their transportation and fabrication. Obviously there will be dislocations. Thus, instead of putting steel into buildings that will last 30 years we may put it into automobiles that will be scrapped in five years. We shall divert much labor and material to the production of gasoline with which to run the automobiles, and much cement for the improvement of the roads for them. Nevertheless there will be no question respecting the activity in doing all those things and in many lines there will naturally be handsome industrial profits. Superficially everything will seem to be ringing as happily as the marriage bell. There will be upswings and downswings of the so-called business cycle, but after all those are of only superficial manifestation.

In the meanwhile great economic evils are undermining the whole structure. In capturing a greater share of the produce of industry town labor does not get it only from what are technically called property and management, but it robs the farmers, and shopkeepers who theoretically are capitalists. Moreover, the stronger classes of town labor prey upon the weaker of the proletariat. This upheaval of what used to be a delicate economic organization is in itself of ominous portent. But the people who capture an increased share of the produce of industry and proceed to make merry with it commit other crimes. In order to be merry there must be more leisure, *i.e.*, shorter hours per week. More labor must be diverted to service and to the provision of pleasures. Many men refuse to do the disagreeable jobs that have to be done and that they used to do. In short, although we can not prove this statistically, there is the strongest kind of reason to believe that the 40 per cent of our population who constitute our workers do not put in so many hours of work per annum in 1923 as they did in 1913. We may be blind to the effects of this, not seeing that it is at the expense of savings—the provision of capital goods—that are going to be needed in coming years and at the cost of impairment of old property which we are neglecting to keep up.

However, industrial management feels much evil effect right away and makes frantic efforts to improve methods so as to counteract the consequences of the determination of labor to eat all of the cake of the old size and let consideration of the future go hang. In other words management is desperate in its efforts to make a bigger cake and preserve a necessary surplus

for itself, knowing that failure to do so spells ruin. In some industries there have been brilliant achievements, but on the whole it is doubtful whether these constructive efforts have any more than merely offset the destructive influences. There is no positive evidence that 100 billion hours of work are producing any more goods in 1923 than in 1913. There is considerable evidence to the contrary. There is however positive evidence that 42,000,000 workers do not function for so many hours per annum in 1923 as they did in 1913. As I have previously pointed out the economic effects of this may be obscured for a long time, for they may be, and probably will be, at the expense of principal so to speak, and they will not be apparent until we find that we do not possess adequate housing, means for transportation, not enough schools, etc. Indeed, we are conscious of such inadequacy even now, but there is a general failure to understand its meaning or what has brought it about.

Let us pause here to consider what indeed it is that has brought this about. I say in one phrase that it is a state of mind; and I amplify this to say an ignorant and even insane state of mind. There has been a revolt against what is called capitalism. There has been the stupid representation that although capitalism had served to elevate the scale of living of the civilized world it had outlived its usefulness and could no longer succeed in functioning properly. Herein we find the germ of state socialism and pink socialism, which are founded on the preposterous idea that experienced people do not know how to conduct affairs properly and that inexperienced can do everything better. Alas! We have had practical demonstrations of the

fallacy of this thought, absurd on its very face, and have learned that in business management the hand of the government is the touch of death.

Then we have had the thoughts of syndicalism and communism, founded on the hypotheses that the worker is the only real producer and that by capitalism he had been robbed of his tools and of all but a pittance of his own product. Italy tried syndicalism and wisely rejected it just short of its bringing national disaster. Russia tried communism and found it a formula for the expeditious committal of suicide by the proletariat.

Communism, syndicalism and socialism have all been tried on small and large scales, with disastrous results, so why waste any more time upon them? American labor, in its superior wisdom, does not. American labor has consistently turned its face against false prophets and has been directing itself according to what I shall describe as the parasitic theory of labor. This is founded on the economic theory of the residual claimancy of labor but is a perversion of it. It supports capitalism, because capitalism can make the most production, but aims to claim the maximum that it can and let capitalism survive, which is shrewd but dangerous, for no dog can support too many fleas without running the risk of some impairment of health. The superior brains that are guiding American labor have no patience with communism, which they know spells quick suicide; or with syndicalism, which inexperienced dreamers fatuously expect to be an improvement over the old way of doing things. Oh, no! American labor wants the present management to continue to run things, but wants to mulct it to the very limit that it can without destroying it.

Even before the war unionized labor was increasing its wages per hour and shortening its hours. The exigencies of the war constrained us to an accession to all of its demands. Since the war its policy has been simply to hold what it got. It is, however, defeating its own aims by carrying the parasitic theory too far. The theory of the residual claimancy of labor in itself implies that labor is getting all that there is for it without being parasitic and beginning to do damage. When it goes further it not only begins to do damage to the whole economic organism, but also inevitably it starts to prey upon itself.

When I am on a railway journey and the conductor comes through the train I look upon him with resentment as a symbol of what has caused my railway fare to be 1.8 times what it used to be. He, himself, has a grouch on his face, and although he is probably thinking that upon the completion of his run he will take a spin in the automobile that he did not use to have, he is resentful over the increase in his rent for which the building mechanics are responsible, and the high cost of the anthracite coal that he is putting in his celler lest next winter he may not be able to get any owing to the policy of the anthracite coal miners. The anthracite coal miners and the builders themselves are grouchy over the high cost of all the things they have to buy, toward which the railway men are contributory. Thus, even the aristocrats of labor consume each other and raise living costs against themselves.

So it goes down the line until we come to the clerks and other branches of the white collar class and to the farmers who not being able to prey upon anybody else become the general victims. We might simply be sorry

for them and rest there if it were not that we can see that the aristocrats of labor are easing up in their work and thus diminishing the amount of the national produce; and that they are eating up what ought to be saved to provide for future national requirements.

There is a prevalent misconception, which organized labor is doing its best to promote, that we are in the midst of a contest between greedy employers and ill-treated employees. That is not the truth in any way. Most employers are willing to give their labor anything it wants, providing they can recoup themselves from the general public. The real issue is between the general public and a portion of town labor, not to exceed one third of all the workers of the country, which is seeking to enhance its scale of living at the expense of all the rest of the people and is jeopardizing the national welfare in the process. When people get the dust out of their eyes they will see that and will have no patience with mawkish sentiment and foolish misconceptions.

The total number of workers in the United States is about 42 million, of whom about 11 million are farmers and farm laborers, and about 10 million are professional men, managers, merchants, clerks and governmental employees. There are about 7½ million factory workers, 1½ million workers at hand trades, about 2½ million engaged in transportation services and about 3 million engaged in building construction, both as mechanics and laborers. There is therefore a total of about 14½ million workers engaged in those major, mechanical occupations. The remainder of the working population comprises those who are classed as being in service, numbering about 4 million, and those who are in minor occupations, such as lumbering,

fishing, operating telephones and telegraphs, etc. It appears therefore that at least 50 per cent of the working population of the United States is comprised in what may be described as the farming and white collar classes. It appears moreover that the transportation workers, builders, miners and factory workers who are claiming the retention of war scale of wages are relatively few in number, being distinctly less than one half.

The total membership in labor unions in the United States is variable, but at the present time is not to exceed 3,500,000.[1] If labor unionism has been of incalculable benefit, as we are told, why do not all workers unionize themselves? And why does the membership in labor unions fall off so rapidly as it has done during several years immediately past?

Now, I am not finding much fault with anybody, not even with labor unions, although there are some serious things for which they are undoubtedly responsible. It is not, however, the labor unions that have caused wages to run high and hold high, except to limited extents. What has really done it is the law of supply and demand. Everybody in the Eastern part of this country knows that the wages for domestic servants have risen proportionately as high as for most building mechanics, but there is no union of domestic servants.

[1] At the meeting of the American Federation of Labor in October, 1923, it was reported that the membership of that organization was then 2,926,468, a loss of 269,167 from the previous year and a loss of 1,152,272 from the peak in 1920. The membership in the railway brotherhoods is about 500,000. This indicates a total of about 3,500,000 in the ranks of organized labor at the present time. There are some general unions that are not affiliated with either the Federation or the brotherhoods. The decline in membership in the national unions is perhaps in part ascribable to increase in company unions, toward which there has been a certain tendency during the last year or two.

The rise in their wages is explained by scarcity of such workers and great demand for their services.

Everybody knows moreover that it is not uncommon to find higher wages than the union scale being paid in open shops. The greatest exponent of the open shop in this country is the U. S. Steel Corporation. Its wage scale rose from 100 in 1913 to 254 in 1920, which was as great a rise as in any industry. Even in the strongly unionized field of railroading the average compensation of employees rose only to 236 in 1920. But while steel labor fell to 162 in 1922 railway labor was held at 216.

It may be that a labor union by threat of a general strike becomes able to resist wage reductions in times of business depression.[1] If so that is a bad thing. It is probable that the complete unionization of the workers in an industry, acting in collusion with their employers, may arbitrarily enhance their wages at the expense of the public. There may be results of that nature in the anthracite coal mining industry. Also in the building trades and some branches of manufacturing. These unions are absolutely cold-blooded and selfish. I know instances where there are rival unions which knife each other remorselessly, although both have the common idea of skinning the public.

Apart from such excrescences, however, I do not believe that the labor unions have very much to do with the determination of wages. Their great mischief has been in the economic restrictions that they have

[1] Even that is but ephemeral. Great and prolonged depressions bring about the disruption of unions. Thus, the Knights of Labor broke up about 30 years ago. At the present time trade unionism in Great Britain, which heretofore has been far stronger than anything ever known in America, is showing strong signs of disintegration.

made effective. These range from legislation relating to the conditions for work, as in the matter of railway labor, to limitations upon output, upon the number of men who may work in a trade, and the kind of work that they may do and may not do. All of these things are impediments to the natural operation of the law of supply and demand and therefore are bad. The harassed manufacturer who determines to operate henceforth an open shop, or none at all, generally does so in order to become free to conduct his business without insolent and ignorant dictation, not to pare wages, for he will be constrained to pay the market rate anyhow. This brings us to the most serious objection of all against labor unionism, *viz.* that it promotes slackness in work. That such has happened is certain. For example, we know that west of the Alleghanies building construction is done now at much lower cost with non-union men than with union men, both getting the same wages per hour. We know that non-union men there lay now as many bricks per hour as in pre-war times which union bricklayers refuse to do. We know therefore that inefficiency in this respect is due wholly to slackness and not to physical impairment. Henry Ford, that great manufacturer, recently declared that unionism expressed itself in the promotion of loafing.

The world is still in the throes of economic readjustment following the greatest cataclysm of history. America is enmeshed in this like all the rest of the world, though not so acutely as Europe. The readjustment is far from being completed. I doubt if it has scarcely more than begun and I expect that it will have many years to run. It may be prolonged by the erection of more economic impediments, stupidly conceived as

panaceas although in truth their sponsors have sight of nothing but superficial symptoms. Nothing is going to avert the economic inevitable and the sooner we recognize that the better shall we be.

The true formula for the restoration of well being is simple, but it will not receive much attention, perhaps owing to its simplicity, perhaps for being found unpalatable, like many medicines. Moreover, the body public may be averse to taking any medicine while a good many doctors are assuring it that it is not sick at all, but on the contrary quite active and prosperous. I diagnose, nevertheless, that it is sick, organically sick.

America did not become rich out of the war, but probably became poorer. Any idea to the contrary is preposterous. It would follow from such an idea that warfare is economically a good thing. Since the war we have been squandering our earnings in high living and have not been saving enough. Yet in spite of the extravagances in living by some it is doubtful whether the real scale of living of all in 1923 is as good as it was in 1914. The war did not increase the concentration of wealth in this country but rather did it increase the distribution thereof. It is not true that 65 per cent of the wealth of the country is owned by 2 per cent of the people or anything like it. The war did not produce a class of unconscionable profiteers. Those who profited on the rising markets, without being able to avoid so doing if they would, lost, equally helplessly, on the decline. Only a few got out at the top and stayed out. The war produced an unbalancing of economic equilibrium, which is too complicated an affair for anything but nature to regulate. The unbalancing was in favor of the wage earning class and against the capitalistic

class. The capitalistic class does not consist merely of the men of big business, but includes all of the little merchants and all of the farmers, among whom the farmers as the weakest are in dire distress. No country can be healthy if it be not economically in equilibrium, and it is not so when half of its people are poor and the other half are extravagant. These are some of the reasons why the United States is not so well as many of its people believe. Now, for the simple formula for recovery:

1. Promotion of the will to work.
2. Promotion of the will to save.
3. Removal of all economic restrictions.

The first two prescriptions relate to state of mind, which we must first make healthy. The third prescription is the active agent. Let us scan our statute books and our existing practices and if we find anything of the nature of economic restriction let us abolish it unless there be some mighty good reason why that should not be done. You see I do not wholly revert to *laissez faire.* Nevertheless, I think we ought to go a long way toward it. If we do this, having already created a healthy state of mind, the law of supply and demand will do the rest.

I have no patience with sociologists, who in the desire to increase human happiness (which all of us have) see in the present unrest of peoples merely the effort of the submerged and dissatisfied to get that from which they have heretofore been deprived, or out of which they have been cheated, with a hope of attainment as never before. We are told by some who are described as idealists that we ought to recognize this and give the masses what they want in the true spirit of progress,

lest they rise in their might and take what they can get and lead the way to common ruin. I do not profess to be an idealist in the common sense of the term, which to me implies an absence of sense of the practical. Nevertheless I am not scornful of idealism in the broadest conception. The greatest idealists and progressives whereof I know are the engineers and the managers of business, who dream such dreams as no one else, but who do so in practical ways and work until they make them come true. There are many engineers whose minds do not rise above mere thoughts of measurements and materials, their strength and properties; but the great engineer has visions and is not so far removed from the poet as many might carelessly think. If it were not so, you would have no steam engine and none of the other things that in the space of a century and a half have raised the civilization of Europe and America so far above that of the interior of Africa, and by the very enrichment of the people, have led them to dissatisfaction, such being human nature.

So, as a professed materialist (who may nevertheless have ideals and visions) I say to the professed idealists, let us give to the dissatisfied everything in the ways of liberty and opportunity that they want. I am thinking only of America. An idealist told me recently however there is sufficient liberty and opportunity here, but that the aspiration is for more leisure and more things, in other words, that it is quite materialistic. This brings us right up against economic limitations, just as sometimes we are unfortunately constrained by the limits of our company balance sheets or family budgets. If the national income does not permit the satisfaction of idealistically materialistic aspirations what then can

we do? Shall we eat into the principal and be merry while it lasts?

Well, we may squirm under the restrictions and try to persuade ourselves that they do not exist and while making inroads upon principal deceive ourselves in the belief that our income is really greater than it is. Within a family, limited by its budget, some of the stronger and more selfish members may greedily aggrandize their shares at the expense of the weaker and less assertive. Such instances are common enough both in corporate and family affairs. Our national affairs as a whole are in no wise different except in magnitude and greater complication.

In my recent discussion with an idealist, to which I have referred, I said in conclusion that in my judgment the aspirations of the discontented boil down to the simple desire to steal from those who have what they would like. This raw expression naturally was not relished, but we found that we could stand on a common ground in the agreement that the true aspiration of everybody is to know the facts. I think there is more trouble in this country at the present time from not knowing the facts than owing to anything else. If we know the facts we shall be apt, as a whole, to take the commonsense view of them. So, after much wandering, I thus return to the theme of my address.

CHAPTER IX

WHAT ARE OUR ECONOMIC RESTRICTIONS?

After the Civil War in the United States there was a tremendous development of industry, and the public was impressed with the importance of promoting business in every way. In pursuance of that movement laws were enacted making it more convenient to organize corporations, and other laws were enacted for the assistance of business development. Among them was tariff legislation for the protection of domestic industries in connection with which the cooperation of workers was invited with the promise that so their wages might be elevated. With the growth of domestic business competition became severe, even destructive, and capital took steps to restrict it. The railway companies of the country engaged in some practices that were high-handed. Gradually the public took fright and began to take steps to correct and prevent what seemed to it to be evils. It is possible that the public was right in making up its mind that the railways and industries of the United States were to some extent and in some directions proceeding on lines that were adverse to the common interest. It is probable that even if that were so there would have come corrections by virtue of natural economic laws. With no calm consideration of the subject, however, and probably with but imperfect understanding of it, the people through Congress began to enact restrictive legislation.

This began with the Interstate Commerce Act, which was followed by the Sherman Law, and that in turn by other statutes, such as the Clayton Act and the Trade Commission Act. There developed in such ways a series of economic restrictions, which soon were extended in many directions and generally with but little thought respecting their ultimate consequences.

In other papers and addresses I have urged repeatedly the removal of economic restrictions as an advisable means for the promotion of American welfare. Just what do I mean by this? What are the economic restrictions that I have in mind? It is useful to answer those questions and offer explanations respecting them. But before proceeding to do that let us have a clear understanding of theory.

In urging the removal of economic restrictions let it not be imagined that I am recommending a reversion to the doctrine of *laissez faire*, which meant "let things take their own course," the abolition of everything in the way of restraint or regulation, everything in the way of concert and combination in industry. As a scientific doctrine *laissez faire* fell to the ground, but that did not by any means set up the opposite principle of state regulation, the doctrine of paternal government. "For my part," said Cairnes, "I accept neither one doctrine nor the other; and, as a practical rule, I hold *laissez faire* to be incomparably the safer guide. Only let us remember that it is a practical rule, and not a doctrine of science; a rule in the main sound, but like most other sound practical rules, liable to numerous exceptions; above all, a rule which must never, for a moment, be allowed to stand in the way of the candid consideration of any promising proposal of social or

industrial reform." This clear exposition of thought by one of the great British economists of 50 years ago may well be kept as a guiding principle to-day.

If I were going not merely to recite a list of the economic restrictions that we have imposed upon ourselves but also discuss the causes that led to their erection and the manner in which they have operated this paper would be of great length. Indeed, many of these things are already the subjects of bulky books. My thought is simply to mention the principal of them and make some brief remarks respecting their present effects. My enumeration will probably be incomplete and my analyses imperfect, owing to the magnitude and complications of many of the subjects, but I shall at least offer some ideas in regard to them.

One of the greatest of our economic restrictions is our present tariff law, which raised rates of duties on imports to higher points than ever before, with the avowed purpose of restricting foreign competition. In other words we have set up a great barrier against foreign trade. We say specifically that we do not want to let our people buy freely the products of Europe's work. Yet work is the chief thing that impoverished Europe has to sell. If we do not permit Europe to sell to us with reasonable freedom, how can Europe obtain the wherewithal to buy from us our surpluses of products, especially raw materials, that we need to sell? Also in what other manner can Europe repay the great indebtedness that she has incurred to us?

I do not mean to be understood as urging a complete abolition of our tariff. It has played a useful part in the development of important new industries in this country and may still be doing so in occasional instances.

A tariff on luxuries is a sound economic method of raising revenue. A tariff on raw materials may be necessary for the maintenance of domestic industries of indispensability in time of war. A tariff may be defensible as a means for preventing the disturbance of "dumping" at other times. A tariff system, however, whose purpose is to curtail foreign trade in general and eliminate common competition is an economic restriction of very great danger.

Rather closely associated with the tariff barrier is the restriction upon immigration that we have imposed, although it is a restriction that is of both economic and political nature. In it there are two thoughts, one of them being that we have been pouring too much infusible material into our melting pot. This is the political thought and with it there is bound to be a great deal of sympathy. It may be pointed out however that the admission of immigrants does not necessarily imply the granting of citizenship; also that it would be possible to exclude the kind of immigrants who are undesirable and admit freely those who would serve useful purposes. The other thought in the restriction of immigration is economic, reflecting the wish to limit the supply of labor.

The correlation between restriction of imports and restriction of immigrants is that on the one hand we will not let the people of Europe work freely for us at home while on the other hand we will not let them come hither freely to work for us here. The lowering of these barriers, both or either of them, would tend to make the products of labor cheaper in this country, in other words would tend to reduce the cost of living, which it is highly desirable to bring about. The removal or modification of both or either of these restrictions

would tend also to increase the markets for our raw materials, which also is a thing highly desirable to bring about. The removal or modification of the tariff barrier would be much more effective than the immigration barrier and much quicker in its results. Notwithstanding the great height at which the tariff barrier has been fixed the pressure from Europe is creating a strong tendency to overflow it. Our export balance is diminishing, if not disappearing.

Among our economic restrictions of purely internal effect one of the greatest is the vicious system of federal taxation, which is founded on the fallacies that the American people became rich out of the war and that there has been an increased concentration of wealth among a relatively small class of the people. Our system of federal taxation is therefore founded upon the thought that is vulgarly though graphically expressed in the phrase "soak the rich." This is put into practical effect by heavily increasing surtaxes, falling upon relatively few people, while the system of levying and collecting income taxes is such that probably some millions of people who ought each to pay a little escape any payment at all.

While recognizing the validity of taxing people according to their ability to pay, it may be held that our existing method constitutes an economic restriction of most serious character. Its vicious effects are manifold. Among the most important are the destruction of incentive to enter into new enterprises with hope of large profit if the government is going to appropriate a large share thereof; the diversion into tax free investments of capital that should be employed industrially, the diversion often leading to extravagance and waste;

the deliberate swelling of legitimate business expenses in times of prosperity in order to diminish net profits, thus intensifying the peak of the business cycle, whereas if such expenditures were deferred the nadir of subsequent depression might be tempered.

The prime consequence of our heavy surtaxes is the withdrawal of large capital from heavily taxable enterprises and developments, as represented by the common stocks of railroads and industrial corporations. All of these are in process of being transferred to small stockholders, to whom income surtax is a matter of indifference. But the larger consequence is necessarily a contraction in business which Wall Street has no difficulty in foreseeing. There would probably be more revenue collected with an income surtax of 20 per cent than with one of 50 per cent. Before there can be any development of business there must be promise of a profit. If the business is more risky than the average there must be promise of a profit higher than the average. Take away this incentive and business stagnates. The government is working to that end when it takes away in the form of taxes one-third or one-half of the profit resulting from a business venture. There is not much incentive to men to take risks in any industry when all the risk must be borne by the individual and if success comes ultimately a large part of the gain is taken away by the government.

The proponents of high surtax justify them on the ground that they are a burden on the rich. In fact the rich are neither so numerous nor so wealthy in the aggregate as is commonly supposed, but even if they were it would be unwise to tax them so severely and by thus reducing their surplus curtail what otherwise

would be invested in capital goods, which reacts unfavorably upon all classes of people.

The restrictions with which the operation of our railways has been tied up are of deleterious consequences. The acme of these is to be found in the Transportation Act of 1920, which while possessing some good features has a very bad one in the creation of the U. S. Labor Board, giving governmental authority over conditions of employment of labor for the operation of the railways and the rates of wages that shall be paid. Railway labor is therefore put into a class by itself by congressional action.

The extent and nature of the restrictions that have been imposed on the railways were graphically portrayed by Charles Frederick Carter in a recent address wherein he charged that they cost the people of America at least a billion dollars a year; how much in fact "Omniscience alone knows." He suggested that "if Senator La Follette and his followers were sincere in their desire to reduce rates they could accomplish that result by the simple expedient of repealing the foolish laws that hamstring railroad management." The following paragraphs are in Mr. Carter's own words:

> At the last short session 134 bills to Regulate the Railroads Some More were introduced in Congress. And it was alleged recently that 400 bills to Regulate the Railroads Some More had been written ready for introduction as soon as Congress meets. If you doubt the possibility of finding 400 things which can be done to the railroads that have not already been done, I beg to assure you that you have underestimated the infinite resources of demagogy.
>
> But what is there about railroads that needs so much regulation? Well, there are ashpans, for instance. You couldn't expect locomotive builders to know how to make an ashpan, so Congress kindly helped them out. And cylinder cocks! Locomotives are required by law to have cylinder cocks. Up to the hour of going to press it has never occurred to a steam engine builder to design a cylinder without cocks, but Congress took no chances.

Then there is the dimensions of cabooses. The length and beam and depth of hold of cabooses are profound problems of state, worthy to engage the mightiest intellects, and it has engaged them.

Rates, wages, hours that men may work, what they may do when they do work, the kind and character of equipment, methods of financing, details of accounting, terms of contract between carrier and shipper, grade separation, train schedules, use of terminals, leasing of lands, purchase, construction or abandonment of track—all this and numberless other details are prescribed by law.

The legislation dictating the conditions under which our ocean shipping must be conducted, especially with reference to the employment of seamen is an economic restriction of the first order. Insofar as it applies to coastwise shipping, wherein the limitation of the right to American vessels may be politically well-justified, the effects are similar to those of economic restrictions upon railway traffic, which may remain obscure for a long time. In overseas traffic, however, the effects have been quick and in no wise uncertain, for therein American ships come immediately into competition with those of foreign ownership which are not subject to our restrictions. The consequence has been an inability to keep the American flag extensively upon the high seas. As a remedy for this economic evil it is proposed to give shipowners a subsidy at the expense of all the people in order to offset the drawbacks of the restrictions that are imposed upon them. Without entering into any argument respecting the pros and cons of this controversial subject it is obvious that an approach to *laissez faire* in maritime traffic is vastly sounder than paternalism.

In some states there are legislative restrictions upon the right to work. Thus most states require chauffeurs to be licensed before they are permitted to operate automobiles. In this instance the restriction, imposed

under the police powers of the states, is proper for the protection of the public. In some states there are laws excluding men from work as miners in collieries unless they have a license as such, the obtaining of which requires considerable time.[1] These laws are put upon the statute books with the pretence of promoting safety in mining, but mining engineers know that they are ineffective for that purpose, which is best attained in quite a different way.[2] In fact these laws are but pretexts for excluding competitive labor in times of strikes, and as such they are economic restrictions.

Some of the greatest economic restrictions are not legislative but are what have grown out of customs and practices, especially of labor unions. I shall not here discuss the effect of labor unions upon wages, except in a general way. Wages spring from production and represent the division thereof among capital, management and labor. The aggregate of their shares of the three parties can exceed 100 per cent by no possibility. The conditions of modern civilization are too complex to permit a division of produce in kind. Therefore it is sold at market in terms of money, which consequently becomes the medium of exchange and the division is made in dollars, pounds sterling, or whatever be the monetary unit. The exchange value of each commodity is determined by the conditions of supply and demand, which thus makes the division among the

[1] The state of Pennsylvania requires laborers to work two years in the mines before they may obtain licenses as miners.

[2] Safety in mining, whether coal or metalliferous, is best promoted by the enactment of a code of rules prohibiting dangerous practices, adequate inspection of practices by the state, and punishment of both managers and miners for infractions of rules. The labor unions have never been willing to endorse such a program and may be considered to stand against it.

several industries. No industry may successfully dictate respecting this unless it possesses a monopoly, and then only within limits. It is easier for successful dictation respecting the division between capital and labor within an industry but that also is subject to limitations. This consideration may be extensively developed, but my present purpose is merely to dismiss the item of wage demands of organized labor as being inherently of the nature of an economic restriction. They become that only when they constitute an impediment to competition and to the free operation of the law of supply and demand. Realization of labor union aspirations for the complete unionization of labor, with closed shops, might make them such.

The immediate economic restrictions of labor unions that are of grave concern are unmistakeably hampering. These may be generalized as the discouragement of work. Specifically they prescribe arbitrary limitations upon performance, they restrict the personnel of a trade, they allocate the right to work among jurisdictions outside of which no member of the particular union is allowed to function even in simple matters, they impose wasteful rules upon employers, they deny to outsiders the right to work. Such restrictions tend to diminish competition and production. Respecting that there is no shadow of doubt. The evidence of this has been stated so many times and is so conclusive that there is no need to repeat it here. The effects of labor unions in these ways are far more disastrous economically than is anything that they are able to do with regard to wages.

Mr. Alfred, the president of the Pere Marquette railway has pointed out what happens when a locomotive has been sent to the shop for repairs because of a

broken stay bolt. Up to the time of the McAdoo administration of the railroads this was a matter that could be put right by a boiler-maker and his helper, and in much less time than such a replacement takes now. Here are the stages of the operation as laid down by the various shop crafts:

1. The cab carpenter and his helper remove the running board.
2. The sheet metal worker and his helper take off the jacket.
3. The pipemen remove the pipe.
4. The machinist and helper remove the running board bracket.
5. The ox-welder and helper burn out the staybolt.
6. The boilermaker and helper take out the staybolt.
7. The boilermaker and helper put in the staybolt.
8. The running board bracket is replaced by machinist and helper.
9. The running board is fastened on by a cab carpenter and helper.
10. The jacket is replaced by a sheet metal worker and helper.
11. The pipe work is replaced by a pipefitter and helper.

Twelve men are thus ordained to do the work of two! This is merely one instance of many. Not only is needless work created in this utterly wasteful way, but the shop foremen are continually at a loss lest they offend some particular union in the allotment of work. They never know when a dispute between two of the unions will arise.

The policy of labor unions in "making work," either by increasing the number of men that are to do a specified job or reducing the performance of a man doing one job constitutes an economic restriction of the first order of magnitude, one whereof the consequences are bound to be grave. There are some of their evil practices that may be, and should be, forbidden by law. The great remedy is, however, the open shop and the establishment of free competition and the general right of everybody to work, which theoretically is possessed by all citizens but practically is not.

There are some great laws upon our statute books, that theoretically are not economic restrictions, but which practically became so owing to the manner of administration which may be different in different hands. Among these are the Sherman law and the Trade Commission law. In their intentions both of these laws are just the opposite of being economic restrictions. The Sherman law aims to preserve competition, and the free play of supply and demand, which is beneficent. The Trade Commission Law aims to prevent unfair practices in commerce and industry, which also is desirable. As administered, however, both of these laws have been directed in ways to make them restrictive of commercial enterprise. It was only by virtue of the Supreme Court of the United States interpreting the Sherman law by what is generally characterized as the "rule of reason" that business conditions are even tolerable.

In spite of the many decisions of the Supreme Court, however, the men who are directing our industries at the present time are uncertain whether or not they may be hailed into court by the whims or misconceptions of bureaucrats in the government. The behavior of these administrators of these laws has been compared to that of a drunken man with a gun. The persons who are threatened have to make the best of it and try by suavity to get the gun away from the hand that is controlled by a disordered brain. Even so innocent a matter as joint action for the collection of industrial statistics, which is of great importance in contributing toward equilibrium in industry, is entered upon with hesitation lest there be charges of violation of the Sherman law.

The Trade Commission law contains elements of a character most destructive to the business of this country. The Clayton law is clearly an economic restriction of the first order. The Sherman law aims to preserve competition by forbidding collusion among the managements of business for the regulation of production and prices. The Clayton law specifically exempts labor unions from that prohibition. It is open therefore to the labor unions to acquire full control of the labor in an industry and dictate its terms to the peril of all the people, as has happened in the anthracite coal mining industry.

CHAPTER X

DISTRIBUTION OF WEALTH IN THE UNITED STATES[1]

The spreading of the farmer-labor movement in the West and the ascendancy of Senator LaFollette and Senator Brookhart and others like them foreshadow attacks upon the corporations and wealthy persons of the United States in the next session of Congress. James A. Frear, a member of Congress from Wisconsin, stated the underlying idea in a recent newspaper interview, wherein he was represented as saying the following:

"Undistributed and unlimited profiteering has brought about an unhealthy economic condition when 2 per cent of the people in this country are found to own 65 per cent of all the wealth . . Millions of people who are scraping out a bare existence and fighting against a vicious sales tax urged by big business will approve any effort to curb these unconscionable profits."

I do not criticize Mr. Frear, or any of the so-called radical senators, for entertaining the belief that 65 per cent of the wealth of the United States is owned by 2 per cent of the people, for their belief is founded upon what appears to be good authority and is entertained by more scholarly persons than they. Prof. Homer Hoyt in the quarterly of the American Statistical

[1] Published originally in *The Iron Age*, Oct. 4, 1923.

Association for March, 1923, discusses this subject, drawing attention to the discrepancy between the bulk of the wealth being owned by the few and the bulk of the national income being shared by the many, the latter having been proved by the National Bureau of Economic Research in a way that has received common assent. Professor Hoyt remarks that no one has reconciled these apparently conflicting statements and adds that as a matter of fact both of them are correct, following which he proceeds to try to prove that what seems to be a paradox really is not so. A simpler mind would not so quickly jump to the conclusion that both of these conflicting statements are correct, but rather would deduce that one of them is probably wrong, and knowing the nature of the work of the National Bureau of Economic Research on the national income would conjecture that the error is in the statement respecting the distribution of wealth.

The genesis of the latter statement is as follows: It appears in the "Final Report of the Commission on Industrial Relations" (Frank P. Walsh, chairman) published in 1915, wherein it is stated that "the 'rich,' 2 per cent of the people, own 60 per cent of the wealth." Mr. Frear, Senator LaFollette and the rest of them therefore find their authority in the report of a governmental commission duly transmitted to Congress. That commission was not, however, the original authority for the statement, but adopted it from the book on "The Wealth and Income of the People of the United States" by Dr. Willford I. King, whom the Walsh Commission correctly characterizes as a "statistician of conservative views," Reference to the work of Dr. King will show that he did not make the statement in

quite so positive a way as represented.[1] However, it is unnecessary to split any fine hairs, for the same reference to the work of Dr. King will disclose also that he made his statements upon the strength of very inadequate data, which will not withstand critical analysis.[2] Dr. King, himself, will agree to this, for he informs me "that he is now in doubt as to whether the amount of wealth escaping probate is not so large as to cause a curve showing the distribution of estates probated to give a very erroneous impression concerning the distribution of wealth among decedents."

We have here an instance of a great misconception, that may lead to grievous political consequences, being founded upon the unsupported statement of a single economist, made eight years ago when the data available were far less than what exist at present; a statement that is moreover based upon a method of computation whose very validity is challenged. It has been worth while to go into this explanation, even at the risk of being tedious, for if we are going to try to ascertain the truth it is desirable first to expose previous errors and misconceptions. This is moreover an excellent example of how unsupported statements are perpetuated, are incorporated and endorsed in governmental reports, and become accepted as facts without anybody stopping to consider whether they really are so, or not.

[1] The agrarian Senators refer to 65 per cent of the national wealth being owned by "the rich." The Walsh Committee says 60 per cent. Dr. King's original statement was that "more than half, in fact, almost three-fifths of the property is possessed by this fiftieth part of the people." His statement has therefore been magnified in repetition, but we need not cavil especially at this.

[2] Doctor King's original deductions were drawn solely from an analysis of estates probated in Massachusetts and Wisconsin.

A study of the distribution of wealth in the United States will surely be complicated and probably more or less uncertain in its results. A method that immediately suggests itself is an analysis of the inventory of the national wealth. In my book on the "Wealth and Income of the American People" I offered such an inventory, expressed in terms of the dollar of 1913. My totals were higher than would be indicated from census estimates for previous years, and I made it clear why the previous census estimates are to be viewed as untrustworthy and should not be used in comparison with other estimates. I made my own estimates in great detail and was quite frank in explaining how I arrived at them. I am unaware of any serious criticisms of them. I feel justified therefore in assuming that my figures are nearly enough correct.

I estimated that the wealth of the United States at the end of 1920 was as follows:

Physical property in the United States	272.8 billion dollars
Foreign credit balance	17.8
Total	290.6

I expressed the opinion that the foreign credits are a doubtful asset. In so far as they are owed to the nation this will not enter extensively into a discussion of the distribution of wealth, for the loss, if there be any, will be spread over all classes of people. Any loss on commercial credits and foregin investments will fall, however, mainly upon the banks, corporations and investors. It may be remarked here that a considerable loss has already been experienced by the extensive speculation in foreign currencies.

I divided my estimate of the physical wealth at the end of 1920 according to heads. A condensation thereof is as follows, in billions of dollars:

Owned by the people in common	17.125
Farms, live stock, etc	75.035
Houses in cities and towns	55.244
Other urban real estate	23.676
Factories, railways, mines, etc	57.320
Furniture, clothing, jewelry, etc	15.900
Gold and silver bullion and coin	3.823
Automobiles	4.594
Ships, yachts, wharves, drydocks	1.063
Stocks of goods	19.000
Total	272.780

An itemization of the industrial property, including public utilities, as of the ends of 1916 and 1920, is as follows. It will be observed that in these estimates the value of the railways of the United States is put at a much higher figure than was tentatively allowed by the Interstate Commerce Commission.

	1916	1920
Mines	$ 3,880,000,000	$ 3,269,000,000
Railways, steam	24,500,000,000	25,500,000,000
Railways, electric	5,361,734,000	4,000,000,000
Express companies	38,597,253	34,691,199
Manufacturing machinery and tools	14,500,000,000	15,500,000,000
Meat packing plants	250,000,000	350,000,000
Telephone and telegraphs	1,475,000,000	1,800,000,000
Pullman cars	130,000,000	150,000,000
Tank cars	63,000,000	180,000,000
Petroleum pipe lines	400,000,000	608,000,000
Petroleum tankage	50,000,000	60,000,000
Light and power plants	2,900,000,000	4,058,000,000
Gas lighting plants	1,250,000,000	1,500,000,000
Waterworks, privately owned	300,000,000	310,000,000
Totals	$55,098,331,253	$57,319,691,199

Of the above enumerated wealth a good deal may be allocated as being of general ownership besides what has

been so specified. Thus some of the gold and silver bullion is owned by every person who possesses gold and silver certificates, which he uses as currency. The wharves and drydocks are largely municipally owned. The estimate for the value of ships represents mainly the national fleet. There is certainly a wide distribution in the ownership of the automobiles, about one-third of which is ascribed to the farmers of the country. Also in the ownership of furniture, carriages, clothing and jewelry. Although the well-to-do possess a great deal more of those things per person their number is too small to enable their aggregate of such possessions to loom very big. The stocks of goods are owned partly by the producers of raw materials, including the farmers, partly by the manufacturers who fabricate them, and partly by the merchants, wholesale and retail, who distribute the finished products.

The urban real estate, valued at 78.920 billion dollars, represents about 20 million houses and apartments, outside of the farms. It is well known that to a large extent the American people own their own homes. According to the last census 55 per cent of the families in the United States rented the houses in which they lived, while 45 per cent held title to them. Of the latter about five-eighths of them held their property free from encumbrance, while three-eighths held it subject to mortgage. These percentages are calculated upon all of the dwelling, including those on the farms, but we may apply them to the 20,000,000 urban dwellings without going far astray.

In my "Wealth and Income of the American People" I estimated the 20,000,000 houses and apartments available for use by people other than farmers in 1916

as being of an average value of $2,880, including the land on which they stood, giving a grand total of 57.6 billion. My estimate for the value of other urban real estate was 24.7 billion. With the aid of the census figures we may proceed further with the analysis. Of the 57.6 billion in houses, about 31.6 was owned by landlords. Of the 26 billion remaining about three-eighths or roughly 10 billion was mortgaged. Inasmuch as mortgagees are generally indisposed to lend more than two-thirds the value of real estate we may conjecture reasonably that the total of mortgages on the homes occupied by owners in the United States was about 6⅔ billion dollars.

Dr. L. C. Gray of the U. S. Department of Agriculture at a meeting of the American Economic Association in December, 1922, presented a compilation and analysis of the wealth and indebtedness of the farmers of the United States. He estimated the total farm capital at about 95 billion dollars, of which he reckoned about 73 billion dollars as belonging to farmers who owed about 11 billion, making the net worth of the farmers proper about 62 billion. Dr. Gray estimated that nearly half of the total farm property not owned by farmers was held by retired farmers. It may be conjectured that the remaining ownership of farms is largely by local merchants and bankers. These data are not seriously out of tune with my own estimates.

It will be perceived that Dr. Gray's estimate of the net worth of farmers is about 21 per cent of my estimate of the total national wealth, while his estimate of the farm capital is about one-third. This in itself is an important thing upon which to fix attention, for it is well known that the "rich" class that is especially the

target for invective and taxation, is not in the habit of either investing in farms or lending money upon them. If 33 per cent of the wealth of the United States be in farm capital the "rich 2 per cent" of the people could not own 65 per cent of the wealth and leave anything for the millions of people other than themselves and the farmers, which result would be a *prima facie* absurdity.

Even the lowest grade of the laboring classes possess some wealth. Thus, Dr. L. C. Gray in his paper on "Accumulation of Wealth by Farmers" in the American Economic Review, Supplement, for March 1923, estimates that out of 4,161,690 farm laborers, reported in the census for 1920, probably about one-half of them possess independent accumulations of wealth to the amount of an average of $350 per person. There is scarcely a family among wage earners that does not possess something in the way of furniture, clothing, and tools of trade. And, moreover, as will subsequently be shown a majority of them must have something in the savings bank.

Obviously this brings us right up to the consideration that the titular holders of the wealth of the United States may not actually own it free of claim by the money lenders. The farmers of the country do not own their farms in full. The townspeople who have title to their houses to a certain extent have only an equity in them. I have already estimated the mortgages on the latter class of property as amounting to about 6⅔ billion dollars. According to the last census there were mortgages on about 40 per cent of the farms, aggregating about eight billion dollars. It does not follow from this, however, that such claims appertain to "the rich." The greatest lenders of money to the

farmers are the life insurance companies, whose assets are the combined property of many millions of policy holders. So it is with the mortgages on urban real estate, the money for which comes largely from the life insurance companies and the savings banks, wherefore the claim upon these forms of property rests among many millions of people.

Besides mortgages on real estate claims on the physical wealth of the United States by others than the titular holders of the property are represented by government bonds and notes, state, county and municipal bonds, corporate bonds, and notes for bank loans. The obligations of the Federal Government are of course collectable out of everything through the medium of taxation. The state, county and municipal bonds are in the same way first liens on all the property within the respective political subdivisions.

The public debt of the United States, June 30, 1922, was about 23 billion dollars, represented chiefly by liberty and victory bonds. It was estimated by Treasury experts at that time that there were at least 10 million holders of these bonds. There were some concentrated holdings. Thus, at the end of 1922 the national banks owned 2⅔ billions of United States securities. It is obvious however that upward of 10 million bond owners implies a wide distribution of this national claim upon the wealth of the country.

The total of state, county and municipal indebtedness in 1922 was about eight billion dollars. These bonds are probably owned largely by the more wealthy class of investors.

The total of loans and discounts by the national banks at the end of 1922 was 11,600 million dollars.

These advances were to a large extent attributable to carrying the country's necessary stock of goods, both through the process of manufacture and through the period of sale. To a smaller extent they were loans to brokers and other persons on stocks and bonds. But here again it was not the bankers' own money that was loaned. Rather was it, in the main, the aggregate of the deposits of a great many people.

It does not follow from the fact that certain interests are money lenders that the source of supply is a relatively few wealthy people. The greatest money lenders of all are the savings banks and the life insurance companies. At the middle of 1922 there were in American savings banks 26,637,831 accounts, aggregating $18,087,493,000. At the end of 1920 the life insurance companies had assets of $7,319,997,019, which was contingently the property of over 40 million policy holders. Of this great fund 32.29 per cent was invested in mortgages, divided about half and half between farm mortgages and the other kind made up of city, building, home and industrial loans. About 26 per cent was invested in railroad bonds and stocks. Loans on policies amounted to $820,000,000 and investments in government bonds to $772,000,000. The other investments were mainly in state, county and municipal bonds.

In all of these forms of investment—savings bank deposits, life insurance and government bonds—there have been important increases since 1916. This does not reflect increase in the national wealth, which, as I have shown in my book, did not occur in the period 1916–20 and to but relatively small extent in 1921–22. What it does show is a transfer of the claims upon the

national wealth from one group of people to another, probably from a relatively small group to one that is very much larger. The last is indicated by the great increase in the number of savings bank accounts, government bondholders, etc. The depletion of the smaller class is much greater than the transfer to the larger class, the difference being measured more or less by the decline in the national rate of saving from 15 per cent of the national income pre-war to perhaps 7 or 8 per cent in 1920–22.

The main features of internal indebtedness, which represents claims upon the physical wealth of the country by others than the titular holders, may now be summarized as follows:

	Billion
The national debt	23.0
State, county and municipal debts	8.0
Loans by national banks	11.6
Savings bank deposits	18.0
Life insurance assets	7.3
Total	67.9

The above summary omits obviously the claims of state banks and private persons. Conjecturally these would be relatively insignificant in the aggregate. On the other hand it is positive that there are duplications in the above summary. For example, some of the assets of life insurance companies are invested in government bonds and some of the loans of national banks are employed for carrying such securities. Moreover a considerable proportion of the life insurance assets are invested in railroad bonds and stocks. Bearing these conditions in mind, and making due reservations respecting uncertainties, it appears probable that about 20 to 25 per cent of the wealth of the country is mort-

gaged internally, in one way or another. As has been previously shown the mortgagees are in the last analysis great in number, wherefore there is implied a diffuse distribution of these claims. We may come positively to another conclusion. About one third of the national wealth is in farm capital. Nearly one half of the American urban homes are occupied by their owners. Combining these thoughts with the wide distribution of savings bank accounts, life insurance policies, government bonds, and the stocks and bonds of corporations it is indisputable that the American people are preponderatingly property owners.

Even the property of the railways and industrial corporations is widely distributed through stock ownership. Thus, at the end of 1922 the Pennsylvania Railroad had 140,000 stockholders and 90,000 bond holders, whose combined number was almost equal to the employees of that company, who aggregated about 243,000. So it is with many of the great industrial companies, such as the United States Steel Corporation, the General Electric Co., the General Motors Co., the public service corporations like American Telephone and Telegraph Co., and so on.

The Interstate Commerce Commission recently completed the compilation of the number of stockholders of Class 1 railroads as of Dec. 31, 1922. Class 1 railroads are roads with operating revenue above one million dollars annually and represents all of the important mileage of the railroads of the country. There were at that time 777,132 railroad stockholders, which was an increase of 24,165 stockholders over the same date in 1921. Thus it appears that considerably more than three-quarters of a million persons own the railroads of

the United States and this does not take into account the very many other persons who own a distributive share in life insurance and other companies that may directly have railroad stocks as part of their assets. Nor does it take into account the large number of stockholders whose holdings stand in the name of brokers as securities for loans.

There is some evidence respecting the ownership of corporate securities in the aggregate in that the dividends reported by income tax payers fall short of the estimates of dividends paid by corporations. The latter statistics are not fully reliable. I should hesitate to characterize them as being any more then roughly indicative. With due allowance for these uncertainties we may conservatively draw the deduction that about 75 per cent of the industrial property of the United States was owned by the income tax payers of 1916.[1]

By making some bold assumptions we may now proceed to estimate the total holdings of the class that

[1] In 1916 the dividends reported by the Bureau of Internal Revenue as having been received by income tax payers amounted to $2,136,469,000. The total of dividends paid by corporations was estimated at $3,783,900,000 by Dr. Friday and at $3,389,000,000 by Dr. Knauth. The dividends received by income tax payers were therefore 56.46 per cent of the total estimated by Dr. Friday and 63.04 per cent of the total estimated by Dr. Knauth. This would of course imply ownership of dividend paying stocks in like proportion. I have elsewhere expressed the opinion that Dr. Friday's estimate was too high, but in the light of later consideration I think that may not be so. The comparison in this paper between the amount of dividends received by income tax payers and the valuation of industrial property is rather indicative of the contrary. Anyway, these considerations lead me to think that my conjectural estimate of not more than 75 per cent of the industrial property of the United States being owned by the income tax payers of 1916 is reasonably conservative. Inasmuch as the ownership of the stocks of goods is of similar nature the same percentage is roughly assumed for that item. There is no foundation for the guess that this class owns only half of the government bonds other than the data of the Treasury Department showing a wide distribution thereof.

I have arbitrarily defined as "the rich." I shall assume that they owned 75 per cent of the industrial property, 75 per cent of the stocks of goods, rather more than that proportion of the gold and silver; that they owned all of the foreign credits other than national; that they owned automobiles, furniture, clothing, etc., to the average value of $5,000 each; that they owned all of the urban houses that are rented, all of the other urban real estate, all of the state, county and municipal bonds, all of the mortgages on houses and farms, and one half of the government bonds, less only what is attributable to the savings banks and life insurance companies. We may then summarize as follows:

Industrial property, 75 per cent thereof	43.0
Stocks of goods, 75 per cent thereof	14.3
Foreign investments and credits	6.8
Furniture, automobiles, etc	2.2
Urban houses, 55 per cent thereof	31.7
Other urban real estate	24.7
Gold and silver	3.0
Mortgages on urban real estate	6.7
Mortgages on farms	8.0
Government bonds	11.5
State and municipal bonds	8.0
Gross total	159.9
Assets of savings banks and life insurance companies	25.3
Net total	134.6

134.6 ÷ 290.6 = 46 per cent.

It is certain that the rich 2 per cent of the people do not own all of the stocks and bonds of industrial enterprises and it is highly improbable that they owned all of the rented urban real estate or all of the shops, hotels and other commercial buildings. But even if they did so their ownership of the national wealth at the end of 1920 would be not more than 46 per cent.

This analysis indicates that figure as the maximum limit of possibility without, however, giving us any positive evidence as to what the percentage really is.

Too much emphasis can not be put upon this being the maximum limit of possibility. Instead of "the rich" owning *all* of certain classes of real estate, to the aggregate value of 56.4 billion dollars, it will subsequently appear that their receipts from rentals capitalize at only about 6½ billion. It will appear, moreover, that instead of 43 billion in industrial property the dividends received by them capitalize at only about 35½ billion dollars.

Fortunately we may approach this subject in quite a different way and one that is more positive. In 1916 there were 437,000 income tax payers, among whom the number of farmers was negligible. The year 1916 was not one of extraordinary abnormality in the light of what we subsequently witnessed, the general index number of that year being only about 125. Assuming that the 437,000 income tax payers were all heads of families and that their average family comprised four persons we shall account for 1,748,000 people out of a total population which is estimated at 101,722,000 for the middle of 1916. In other words the income tax payers represented 1.7 per cent of the total population on the assumption that they were all heads of families, which of course is the maximum that can be assumed.

These tax payers reported among other things their income from rents, interest and dividends. We may reckon that gross rentals averaged 10 per cent of the value of the property from which derived. We may reasonably conjecture that interest averaged 5 per

cent on the principal and that dividends averaged 6 per cent. The interest average may have been a little lower than the assumption while the dividend average may have been a little higher, but although this is all conjectural the fact can not be at any great variation and would not materially modify the broad result. We may then capitalize the reported incomes as follows:

Rents	$ 643,802,657	÷ 0.10	= $ 6,438,026,570
Interest	1,080,879,405	÷ 0.05	= 21,617,588,100
Dividends	2,136,468,625	÷ 0.06	= 35,607,810,417
Total			$63,633,425,087

The remainder of the personal income in 1916 was derived from salaries and business. Respecting salaries there is of course no question in interpretation. Business income, reported at $3,010,404,924 is a combination of the products of personal service and capital employed in the business. We have no means for making any separation between these two elements. There is included in this the earnings of professional men, of traders, and of merchants conducting unincorporated business. No guess for the amount of capital in use in this way would be justifiable, and we can do nothing but disregard this matter, simply making a mental reservation respecting it.

It appears from the foregoing that the 437,000 income tax payers of 1916, representing 1.7 per cent of the population at the maximum, derived income in the form of rents, interest and dividends from property valued at about 63.7 billion. It may be argued, and properly, that this class to a large extent occupied houses of its own, the rental value of which does not

appear in the income tax returns. Assuming that each of these tax payers owned a $10,000 house, which is improbable, the total of such real estate would be $4,370,000,000. Over-estimation here may in part offset neglect of the capital used in private business. On the face of things therefore, the property belonging to income tax payers aggregated about 68 billion dollars. Making comparison with the physical wealth of 1916 estimated at 268.4 billion dollars for the internal and 0.3 billion dollars for the external it appears that 1.7 per cent of the population owned about 25 per cent of the total wealth. I am inclined to put this as the minimum limit and say that the class specified owned at least that proportion of the national wealth.

By the first method of analysis there has been established the maximum limit of 46 per cent. The truth is probably somewhere between these extremes, but much nearer to the lower than to the higher. A fair guess might be something like 30 per cent.

Attention should be drawn here to the distinction between physical or tangible wealth and capitalized wealth, which includes also the intangible. A good illustration of the latter is the value of a newspaper, which may be rated at a high figure without there being much physical property associated with it. The difference between the market value of corporate securities and the physical property owned by the company is ascribable to intangible wealth, which may be a reflection of organization and experience, maybe of good will, maybe of patent rights. If the aggregate market value of a stock be less than the cost or reproduction value of the physical property the chances are that the usefulness of a portion of the latter has disappeared and conse-

quently that some physical value has been extinguished. This may not be the case however with respect to public service corporations whose economic freedom is restricted by legislation.

There has never been any estimate of the national wealth that includes the intangible. The aggregate value of the securities of our industrial corporations must logically be in excess of estimates of their physical property. On the other hand the aggregate market value of the railway securities is at present inferior, and the same may be true of other kinds of public service corporations. Confusion involving these points may introduce errors in the computations in this paper, but they will not be of serious, certainly not invalidating, nature. If the intangible wealth, pertaining solely to the industrial enterprises, be guessed at 20 billion dollars[1] on top of the 57 billion of physical, computation by the first method would give 48 per cent instead of 46 per cent; and by the second method, which is founded on capitalization, we should arrive at 23 per cent instead of 25 per cent.

With full recognition of the roughness of the work in this study, I hold it be sufficient to dispel the idea that something like 65 per cent of the wealth of the United States is owned by less than 2 per cent of the people, and consider that it clears away the seeming paradox between that idea and the established fact that about 70 per cent of the national income, other than agricultural, goes to the wage earners, with only 30 per cent to property and management. Of that 30

[1] Roughly speaking there are about 60 billion dollars worth of railway and public utility securities listed on the stock exchanges and about 10 billion dollars worth of industrials (*Wall Street Journal*). These totals are in excess of my estimates of the corresponding physical property.

per cent a large part is ascribable to professional and personal earnings and less than half of it to capital properly speaking.

My classification of "the rich" as those who possessed incomes of $3,000 and upward per annum in 1916 is decidedly a broad one. There were 375,000 income tax payers classed between $3,000 and $20,000 per annum in that year, and the aggregate of their income was 40 per cent of the total. I do not mean to fix $20,000 as the line of demarcation between those who are rich and those who are simply well-to-do, but merely to point out that this exhibition is in line with all the other evidence respecting the great diffusion of wealth in the United States. There is some concentration in great fortunes like those of Henry Ford and John D. Rockefeller to be sure, but clearly it does not amount to anything like what is popularly supposed.

The two methods of examination that I have used in this paper may be described concisely as (1) analysis of inventory and (2) capitalization of income. Those mere descriptions are in themselves convincing as to the soundness of the thought. Pursuance of the latter has not always been satisfactory, owing to the lack of much desirable data. I am therefore conscious of the deficiencies in my study, but I think it is the most helpful adventure into a complicated subject that has been made up to the present time. While there is a good deal in it that is conjectural there is also a good deal that is positive, especially as to the great percentage to which the farms, live stock, etc., bulk in the total of the national wealth; also the great percentage of the urban real estate and the widespread ownership thereof. The net worth of the farmers of the country, who are

not classed among the rich at all, is vast, as has been shown by Dr. Gray. Among the farmers, there are inequalities just as among other people; there are well-to-do farmers and there are tenant farmers who possess but little.

Such concentration of wealth as exists in the United States is nothing that either requires any apology or justifies any attack upon it. In general the people in the United States who possess wealth have earned it and have saved it out of their thrift. There is an enormous difference in the intelligence and earning capacity of people. The biologists tell us that only about one person out of 6,000 in the United States is in the "Who's Who" class. That would imply less than 20,000 of that class in the United States. The number of people who are capable of earning and saving money is much greater than that, but nevertheless it is small in comparison with the total population.

CHAPTER XI

ECONOMIC PRINCIPLES OF THE ENGINEERS

The advances of civilized people in their ability to contend successfully against the adversities of nature, and in the ability of an increasing population to enjoy a steadily improving scale of living up to the advent of the war, have been due to the work of scientists in discovering and interpreting the laws of nature; and to the engineers for putting their knowledge into practical effect. It has been such things as the invention of the steam engine, the electrical transmission of power, the development of the methods of mining and metallurgy and the arrangement of industrial organization that have conferred upon the world the comforts of the present age. Those have not been reserved by and for the class that has opened the way to them but have spread to everybody.

Capital and labor are equally useless and helpless without brains. This is, of course, incomprehensible to the moronic intellect and even to the illiterate. In the early days of the Russian bolshevik revolution the horny handed sons of toil appeared in the offices of mines and works telling the managers and engineers that it had come their turn to go out into the works and down into the mines to labor and sweat while the old hands would henceforth sit in comfort in the offices, sharpening lead pencils and smoking cigarettes, that being their idea of the work of the engineers. Even

after the Russian communistic and Italian syndicalist experiences there are those who are still preaching in the United States: "Put the capitalists into overalls."

It did not take the leaders of the workmen of Russia long to find that by themselves they did not know what to do and that they had to implore the engineers to come back. It took them much longer to learn that even if the engineers came back they could not function properly if they were subject to foolish economic and political restrictions. The great fabric of civilization that we have constructed is a fragile thing. Even with the greatest care in upkeep such an apparently solid thing as a railway wears out and has to be replaced every 20 years. A municipal office building becomes obsolescent in 30 years. The obligation that rests upon the engineers is not only to lead the way in further progress, but also to preserve that which we have gained. Dismiss management from its control of mines, factories and railways, the workers in them would promptly begin to starve to death, just as they did in Russia, for they would know not what to do. Engineers understand this best of all, and while the owners of capital may be timid and compromising toward the forces of ignorance, the engineers must of necessity stand firmly upon a platform of sound economic principles, substantially like the following.

The engineers of the United States feel it their duty to advise the American people respecting the present state of economic affairs in the nation, just as an individual engineer would his client. The people of the United States constitute a great corporation, whose business affairs are analogous to those of a commercial company multiplied many times. The engineers feel constrained

to offer their opinion owing to the responsibility to do things which rests upon them. Confronted by the steady impoverishment of natural resources and the operation of the economic law of diminishing returns it devolves upon management, functioning through the engineering profession aided by scientists, to make such improvements leading to increased production and such elimination of wastes as to offset the increasing adversities of nature merely to hold our own; and to do more than offset them in order to improve the scale of living of the people. The engineers accept this responsibility, but in so doing they demand attention to their advice respecting fundamental economic matters, lest they be unduly hampered in the performance of the professional duties, which they acknowledge.

The welfare of any people depends upon production and saving, it being self-evident that people can live only by having goods and that there should be a surplus saved out of current production in order to provide for the needs of increasing population, especially in means for housing, for transportation and for fuel and clothing. Anything that tends to curtail production and saving is bound to react to the disadvantage of a people as a whole. Wages come out of production and from no other source.

Profits in business are not uneconomic or unsocial, being simply savings out of production. All of the capital in the world has been saved out of production. Wages can be paid only from the use of capital goods. Destruction of capital goods means also destruction of labor.

Previous to the war the American people found it necessary to save about 15 per cent of the national income in order to provide the railways, houses,

factories and public improvements required by the growing population. Since the war the percentage of saving appears to have been less, which is reflected in shortage of houses and inadequacy of means for transportation. Even if physical production remains undiminished, in proportion to the population, failure to make adequate savings is bound to have adverse economic consequences to the people. There is reason to fear that physical production is falling behind the rate of increase in the population and that this is a potent factor in maintaining a high level of prices for commodities.

The labor of a human being is not a commodity nor an article of commerce, but labor, like any service and like any commodity, is subject to the economic law of supply and demand. If workmen fail to produce as much as they can, thereby diminishing the supply of commodities, they curtail the divisible supply and thereby raise prices and injure themselves.

No person has an inherent right to a living wage nor to an equal division of the national produce. Nobody has any right to more than he earns and nature has endowed men so differently that some are able to earn more than others. The maximum that can be divided is the amount of the national produce and if the division thereof does not afford a living wage there is no other source whence it may be obtained. If, in such a condition, one group of workers is successful in securing for itself a living wage, that must inevitably be at the expense of other groups of workers.

The farmers and their families, who comprise nearly one-third of the American people, are under no illusion respecting their living wage being anything different

from what they produce by their labor or being capable of any guarantee by a superior power. When transportation and manufacturing labor bring about conditions that increase the cost of the things the farmer has to buy they diminish his living wage by just so much.

Labor should not resist deflation, nor expect to preserve the rates of wages that were established in terms of inflated dollars. The great primary classes of labor are those who live in towns and work mainly in them; and those who live on farms and cultivate them. If deflation reduces the national income in terms of dollars and if town labor maintains previous income in terms of dollars; *i.e.*, if it maintains its previous rates of wages and working time, by virtue of concerted action or otherwise, it is getting an undue share of the national produce at the expense of the farmers. In other words, the farmer, who is subject directly to the law of supply and demand, may get greatly diminished prices for what he has to sell and be required to pay undiminished prices for what he has to buy. Precisely this condition has existed during the last three years. Although town labor profits thus inequitably and uneconomically at the expense of the farmer it is found that classes of town labor profit at the expense of each other. The building mechanic who is able by virtue of close unions to command exorbitant wages for his labor, and who by reason thereof reduces his working hours and his performance per hour, increases the cost of houses and consequently the rental thereof to the men and women who work in the factories. Similarly do anthracite coal miners and men who are engaged in transportation prey upon the other classes of town workers.

Impartial scientific investigations of the amount of the national income have demonstrated that if the whole of it were divided equally among the workers of the country the share of each would be less than what the average skilled worker now receives. Division of the whole income among the workers would be suicidal, for capital must have a suitable return, else it will cease to function, and superior service is bound to command a premium else it will not be given. The same impartial scientific investigations have demonstrated that under conditions existing before the war, excluding the farmers and their produce, out of the remainder labor received about 70 per cent and property and management about 30 per cent with a rising tendency in favor of labor.

There is reason to believe that the accrual to labor of an increased proportion of the produce of industry is contrary to the national welfare and to the real interest of labor itself in that by the discouragement of capital there are tendencies toward the impairment of national income and the promotion of profligacy in living, with the consequences of diminished production and even greater diminution in the surplus available for saving and reinvestment in national plant.

With present and prospective economic conditions in the United States there is no doubt about the ability of the population to obtain a living wage. The discussion touching upon that phrase is not so much a matter of a living wage as it is of the scale of living. Unless production be increased, wastes reduced, and more economy practised it is probable that the American people in general will suffer impairment in their scale of living.

While we believe that labor in the aggregate naturally obtains the whole of the produce of industry after the

deduction of the fair shares of capital and management (which are limited by competition) and that the benefit of improvements effected by virtue of invention, engineering and organization inevitably accrue mainly to labor, there may be delay of the natural result through imperfection of competition and temporary opportunities for employers to take advantage of labor. Direct dealings should therefore be inspired with ideas of justice on both sides. A wise employer will consider how he can give the best possible wages. A wise employee will consider how he can give the best possible work.

Management in its dealings with labor should be imbued with the spirit of justice and fairness, and both out of ethical considerations and of economic, having in view the promotion of common interest, should pay great attention to the education and control of foremen, who are the agents coming in direct contact with the workmen and in general are the only officials whom the workman knows. Without any doubt a great deal of bad feeling of labor toward capital is an expression of resentment against bad treatment by foremen. It is the duty of management to create and maintain a proper spirit within its several organizations, and we hold that the spirit in any organization is that which trickles down from the top.

It is the duty of management to exercise its best efforts to establish equilibrium in industry and minimize the fluctuations in the conditions of employment. In its efforts to accomplish this it should not attempt to abate competition in production and distribution, but on the other hand it should not be hampered by political restrictions or the opposition of labor.

We do not deny the right of labor to enter into unions, either company or industrial or of national scope, for the betterment of its condition; but we uphold the right and freedom of every man to work without any artificial restrictions. We do not deny the right of labor to strike, but we gainsay the right of labor performing indispensable and immediate public service to strike in a body and without notice, and we believe that there should be stringent legislation in the interest of the public to prevent such acts.

The right of every man and woman to work in any occupation for which fitted, free from coercion, intimidation or violence, should be upheld courageously and effectively by all executive officers of the governments —federal, state, county, and municipal—and adequate means to insure this right should be provided and used. There should be legislation penalizing severely any persons who individually or collectively attempt to curtail the inherent right to work and to enjoy liberty that is possessed by every citizen.

We condemn all policies of labor effecting restrictions upon production, such as limitation of allowable work, limitation of number of men in the trade, limitation of number of apprentices, jurisdictional allocation, the imposition of penalties and fines. Our objections to such restrictions are not only because of their promotion of class interests, but also and especially because they restrict production and therefore are contrary to the national welfare.

While we advocate the abolition of the 12-hour shift in continuous industries as a desirable thing to accomplish and appreciate that the substitute for two shifts of 12 hours each is necessarily three shifts of eight hours

each, we consider it doubtful whether the people of the United States, disregarding the farmers, can as a whole produce enough by the labor of only eight hours per day to afford themselves the present scale of living and make such savings as are necessary for the extension of national facilities. We deprecate the increasing tendency to refrain from doing work on Saturday and to increase the number of other holidays. We do not believe that the credit balance between national income and national living expense permits such an abstention from work in general, and hold that those classes of workers that have won such privileges have done so at the expense of all other classes of workers.

Reliable investigations show a steady increase in the cost of government, even after deducting the charges remaining on account of the war and after allowing for the increased cost of materials and wages for labor. This appears in increased taxation and implies a growing diversion of labor from the production of capital goods and consumers' goods to service. While there is need for increased service in accordance with increase in population, undue diversion is bound to detract from the ability of the people to save even if the increase in total production be commensurate with the increase in population, and this detraction may be more than the people can well afford. We fear that something of this kind is happening now and we urge upon governments—federal, state, county, municipal and town—the need for strict economy and great care in planning extensions and improvements.

Closely allied with the subject of cost of government is that of taxation. Some of the service of government, as for example the post office and the supply of water

to municipalities, is paid for directly, but in the main the cost of government must be defrayed by taxation. Unwise methods of taxation may have serious economic consequences, and may be contrary to the common welfare. There can be no doubt that the present system of high surtaxes levied on income by the federal government diverts investment to tax-exempt securities, especially the bonds of states, and thereby subtracts from investment in capital goods, *i.e.*, those things that produce more income. Equally without any doubt does the present system of levying income taxes lead to increased expenditures for plant maintenance and extension in times of prosperity, thus increasing the competition for labor and material and intensifying the peak of the business cycle at the very time when that should not be done. In the interest of labor, which more than any other demands equilibrium, the work of extending and improving plants should be reserved for the slumps in the business cycle.

During the last 30 years our national economic affairs have been extensively interwoven with economic restrictions, some of them possibly wise, many of them certainly unwise and all of them tending to delay or defeat the operation of natural laws. Some of these restrictions are legislative and some of them are the results of labor union policy. The uneconomic situation in the bituminous coal mining industry, which is greatly overmanned, to the direct expense of the public, is largely a consequence of artificial restrictions. Free play of the law of supply and demand would compel the surplus men of that industry to seek their livelihood in other occupations. Legislative enactments with respect to railway transportation result in men working

for the railways receiving higher wages than other men get for the same work in the same vicinities. In some states competition for work is restricted by license requirements. In many states and industries the right to work is restricted by the terms of labor unions. Immigration is restricted by national legislation. Business is irritated by unnecessary federal and state supervision. The railways are harassed by multifarious regulations by both federal and state governments, which stifle their economic development, and while intended to be in the interest of the public are to a large extent contrary thereto in the broader conception.

We believe that experience has proved that governmental operation of public utilities and industries is inefficient and wasteful and consequently uneconomic. While we recognize the need for a certain degree of governmental supervision and regulation, especially in public services which are founded on franchises and by their nature are outside of the bounds of competition, we believe that such regulation should be reduced to the minimum. In all economic affairs that are open to competition we believe that the national welfare will be promoted by the removal of artificial restrictions that tend to counteract free competition and are in opposition to the free play of the law of supply and demand.

. . .

I believe that the engineers of the country will, in great majority, endorse the declaration of principles in the above statement and will agree that the direction of national economic and political affairs in conformity with them will promote the national welfare. I believe moreover that a majority of the workers of the

country, in whom I have confidence, would also subscribe to them if they had the chance. I believe that the majority of the workers are just as patriotic and think just as much of the national welfare as do other people. If their aspirations appear to be at variance with those of other people and contrary to the general interest, I believe that it is because they do not understand whither they are being led. In this they are to a large extent the victims of selfish leaders—political and professional—and misguided sentimentalists. I do not believe that the American working man is socialistic or communistic or anything of that sort. I do not believe that he is jealous of the rich who have become rich fairly and I do not think that he wants or expects for himself anything more than a square deal. I think that he wants to be told the truth and to be given a chance to think about it. I think that the most misguided of all people are those who fear to tell him the truth, lest they offend him or hurt his feelings. Politicians will never tell him the truth, nor will those leaders who derive their own living out of the perpetual promotion of dissatisfaction. The engineer, on the other hand, has no axe to grind.

CHAPTER XII

THE LAWS OF NATURE

There are certain great laws of nature that are immutable and inevitable. Such are the law of gravitation, the law of the conservation of energy and the law of the indestructibility of matter. Science, having learned those laws, does not do aught but recognize them, for science is the interpretation of nature. These laws are the fundamentals of physics and chemistry. They are laws pertaining to energy and matter. There are also great natural laws relating directly to life and human affairs.

In economics there is the great natural law of supply and demand. A few years ago, amid the madness of the war, fools alleged that the law of supply and demand was an archaic thought, which should, could and would be dismissed. They might as well have chattered that the law of gravitation is a myth and that apples may be made to drop from a tree on a slant instead of perpendicularly; or that the law of the conservation of energy can be so annulled that an aeroplane may soar forever, refuting both this law and the law of gravitation.

In both economics and biology there is the great natural law of the survival of the fittest. In the production of goods competition is bound to bring into play the operation of this law and extinguish the unfit. So also in life itself. We may artificially delay the operation of this law and often with great advantage.

An efficient agency of production may temporarily fall into difficulty. *Laissez faire* would say "let it fail," but rather do we nurse it back to economic health. A genius among men falls sick. *Laissez faire* would say "let him die" but instead of that we send him to a hospital and try to preserve his usefulness to the world. These things are manifestly desirable. We may even use such powers to preserve the unfit for long times.

Nevertheless we are not nullifying the natural law, which in the end is going to show that it operates immutably and inevitably. Nature is not safely to be flouted. Science tells us simply what it is and what are its laws. Sociologists in trying to abolish the woes of man are commonly ignorant or disregardful of his nature. His nature is subject to the great natural law of heredity. Why it should be so we know no more than the wherefore of the law of gravitation. Simply it is. Ignorance of this law, which has been learned in but recent times, has been the source of immeasurable damage to the human race and its civilization.

The biologists tell us convincingly that the mental capacity of men is a function of heredity, not of environment, and that there are great differences among them. No improvement in surroundings and no process of training can convert a moron into a genius. Intellect of the order of genius is inconceivably rare and is an endowment of nature. The psychologists tell us that tests of the recruits for the army, a large sampling of American youth, showed a relatively low degree of mentality on the whole. The majority did not possess the capacity to pass successfully through the course of the standard high school. These much dis-

cussed results have excited the ire of indignant philanthropologists, who have seen in them an attack upon the principles of democracy and an intention of creating a system of caste. Nothing could be more misconceived than such ideas of these flouters of science.

"In the average American city not more than 40 per cent of the pupils who enter the first grade remain to enter high school, and ordinarily not more than 10 per cent graduate from high school," says Terman.[1] who continues "A nation falls short of the true ideals of democracy which refuses to furnish suitable training to a third of its children merely because their endowment does not enable them to complete a course of study which will satisfy the requirements for college entrance.[2]" And "instead of being undemocratic differentiation of courses and enlargment of opportunities for vocational training of the humbler sort is a necessary corollary of the truly democratic ideal.[3]

The examination of human intelligence is no mere fad of academic theorists but is a science that has long been developed and applied by educators. They have formulated scales of mental development according to age, these scales being the result of testing many thousands of subjects. They measure intellect, not education. Let me illustrate by citing a specimen inquiry. The examiner tells the subject that he is going to read a series of statements containing something nonsensical, which the subject is required to spot. The examiner reads "A man went from his home downhill to the village and then walked back downhill

[1] The Intelligence of School Children, p. 87.
[2] *Op. cit.*, p. 90.
[3] *Op. cit.*, p. 91.

to his home." That is among the tests for children of 10 years. A 10-year old child should recognize immediately the foolishness in that statement even if he had never been to school. An 11-year old child who does not perceive it is mentally deficient. A nine-year old child who does is mentally above the average. Ask that question of a bright eight-year old boy and even without the warning of something nonsensical to be expected a quizzical grin will form itself on his face and he will interrupt contemptuously with "What are you giving me?" If a man walks down hill it'll be up hill for him on the way back." If an eight-year old answers the other 10-year interrogatories in the same way he will have an intelligence quotient of 125.

To me the most illuminating thing that came out of the army intelligence tests was not the exhibition that the majority of American people are inferior to high school capacity, but the comparison between degrees of intelligence and previous occupations. The men who had come into the service from engineering proved in the intelligence tests to rate far above all others. Next stood those who had been in the other professions. Much lower were the mechanics. Lower still were the barbers and servants. Lowest of all were the diggers.[1] In other words there was exhibited the evidences of a natural tendency for men to fall into occupations according to their mental fitness.

The word democracy has become a fetish, but in truth there has never been any such thing as democracy in modern times outside of the direction of local affairs in New England town meetings; and in practice the idea of it is impossible, as Mallock so ably demon-

[1] C. C. Brigham, A Study of American Intelligence, p. 70.

strated in "The Limits of Pure Democracy." "We are permitted to do the utmost violence to democracy in our actions as long as we extol it with our words," said Dr. George Barton Cutten in an address upon his induction as president of Colgate University. "The idea of democracy is not only founded on a mistaken theory that all men are born free and equal, but upon another theory equally unsound, that the voice of the people is the voice of God."

People of whom not more than 10 per cent have the mental capacity to graduate from college are not fitted to pass upon abstruse economic questions; and most of the great questions that affect the public welfare are of that nature. The founders of the American republic recognized that, although they knew nothing of scientific biology and psychology, and did not expect the people so to act. They contemplated rather that the people could and would select men of superior intelligence to represent them and that they, their representatives, would be able to act reasonably for them, the people. Early bewitched by the fetish of a false and impossible democracy politicians threw all that to the winds and bowed to the will of the people as they tried to interpret it.

Even now, let the ex-soldiers be asked if they do not want a bonus and in great majority they will shout "aye." Let the voters be asked what they think about it and they in great majority will reply that the boys ought to be given what they want. Therefore Congress by great majority votes it. There is no serious consideration of it as an economic crime, that if enacted is likely to bring great disaster upon us. The people want it, wherefore according to the principles

of democracy they ought to have it and will have it. Those who ought to be the students of economics and the enacters of wise laws conform servilely to the will of the ignorant mob. It is largely owing to this perversion that we are now entangled with the many economic restrictions, to which I have referred in an earlier chapter. We have come to the point, however, where we must make up our minds to conduct ourselves differently if we want to preserve our civilization.

On this subject, President Nicholas Murray Butler in his address at the opening of Columbia University, Sept, 28, 1922, said some wise and discerning things, including the following:

> Unless I greatly mistake, the world is suffering from too much politics and too little statesmanship. There are too many holders of public office who are far more anxious about their continuance in place than concerned for the public welfare. If present conditions are permitted indefinitely to continue, no one dare foretell what will happen to our boasted civilization and its economic basis.
>
> The restoration of the consuming power of the 300 millions and more made destitute by the war, the restoration of the world's power of production in agriculture and in manufacture, the gradual lifting of the heavy burden of public debt, the reduction of taxation, the restoration to normal of the international exchanges, and the extension of international credits, are all subjects for study and recommendation by trained economists and experienced men of affairs. Let the politicians hold aloof for a bit, and let the trained brains of the nations work at what has become a capital problem for the nations jointly and severally.

Obsequiousness to the fetish of democracy has caused us to fly in the face of the natural laws of heredity and inherent inequality in the capacity of men. It has led moreover to dangerous counteraction against the law of the survival of the fittest. Among primitive mankind the fittest, *i.e.*, those best able to survive, were generally the strongest physically. Science and invention have tended to erase physical inequalities, however, and bring

into play mental capacity, exhibited through knowledge and skill. A little man with a six-shooter became superior to the giant with only his fists. A great brain in a weak body may survive in the contests of modern civilization where many strong bodies with little brains die. In our pity and sentimentality, which are emotions that it is painful to decry, we aim constantly to protect the weak, whether weak mentally or physically. There is in this, perhaps, considerable thought of protection of the strong against the harm that the weak may do. But let us consider what results are produced and whither they lead.

"America is rushing madly on to race suicide because of the destructive influence of the melting pot," said Dr. George B. Cutten, in another recent address. "The great fallacy of the melting pot was that we thought environment played so much larger part in life than heredity and if we could only get people here and surround them with proper environment—it mattered not who they were—they would become intellectual, cultured and moral according to our standards. Experience has proved the falsity of such a supposition. In these days mistaken ideas of altruism, philanthrophy and sentimentalism have interfered with nature's penalizing the victims of reckless breeding. Persons who know that children brought into the world will have difficulty in getting along do not give that a thought. Not only philanthropy, but modern medicine is deteriorating the stock, for by this means inferior stock is kept alive."

Albert Edward Wiggam in "An Open Letter from the Biologist to the Statesman" in the *Century* for March, 1922, offered the admonishment of the biologist,

to which the philosopher, historian, economist and engineer, each looking at things from their own viewpoint, will pronounce assent. Mr. Wiggam formulated these warnings.

The first warning that biology gives to statesmanship is that mankind is going backward; that the civilized nations of the world are biologically plunging downward; . . . that your vast efforts to improve man's lot, instead of improving man, are hastening the hour of his destruction. . . . You defy nature with your civilization. Evolution is a bloody business, but civilization tries to make it a pink tea. . . . When you take man out of the bloody, brutal, but beneficient, hand of natural selection, you place him in the soft, perfumed, daintily gloved, but far more dangerous, hand of artificial selection.

The second warning of biology is brief and simple: that heredity, and not environment, is the maker of men; . . . that the differences among men are due to the differences in the germ-cells from which they are born; that social classes, which you seek to abolish, are ordained by nature; that it is not the slums that make slum-people, but slum-people that make the slums.

The third warning of biology is that your philanthropy and your noble-hearted, soft-headed, schemes for ameliorating the conditions of life have failed and will fail to improve the race, and are, in fact, hastening its deterioration. You fondly believe that you can speed up evolution with cakes and cream for the unfit. Nature has progressed by letting the devil take the hindmost. But your method is to increase the number of the hindmost.

The fourth warning of biology is that medicine, hygiene, sanitation, and your efforts to call mental and physical soundness out of the vacuum of nowhere, instead of upbuilding by selection the boundless health, energy, and sanity that are already in the stream of human protoplasm, are weakening and will weaken the human breed. . . . Vice and disease purify the race because they kill the weak and vicious. . . . Your intentions are good, but in the end nature herself will damn your judgment.

The fifth warning of biology is that morals, education, art, and religion will not directly improve the inborn righteousness, educability, or artistic and religious capacity of the human race. . . . The more you "improve" the environment of plants, animals, or men without selection, the more do they deteriorate. . . . Stupidity begets stupidity, and intelligence begets brains; but a thousand years of educating or improving the parents will never "improve" the children. In short, "Wooden legs are not inherited, but wooden heads are."

Politicians deferring to the wishes of an ignorant populace, philanthropologists carried away by their sentimental emotions, and socialists infatuated with

idealistic dreams unite in defying nature itself. Economists will agree that the processes of recent years, and especially the last 10 years, have been levelling, being against the interests of the classes and in favor of those of the masses. This is exemplified in our own economic policy of "soaking the rich," which makes things harder for the intelligent and well-to-do (the two things going very much together); and of increasing the share of the masses in the division of the produce of industry, which makes things easier for them. Consequently the families of the classes contract and those of the masses increase. It is not grasped generally that this is a process of drying up the brain of the country while all the time it is promoting the growth of the body, which by itself is helpless. It is appreciated, however, that something must be done to take care of the growing body, wherefore frantic demands are made upon the engineer. His task is like that of Sisyphus. The easier are made the conditions of life the more rapid is the breeding of people, as the Malthusian doctrine teaches. The dream of the socialist would only be realizable by a state regulation of population, which would be absurd in view of the proved inability of the state to regulate successfully anything at all if it be of economic and industrial nature. The numerous ideas of idealists, philanthropologists and socialists resolve themselves into the conception that the mind of man can manage things better than nature, which is God, and their very conception is therefore irreverent and impious, although many of them will be shocked to hear this said.

Society may wisely enact laws and promote reforms for its own protection, such as laws to prevent murder

and robbery and means to elevate public morals and keep people from becoming murderers and robbers. It may charitably do everything in its power to give all human beings a chance. It may even with reason prohibit the use of alcoholic drink, for although the deduction from natural law would be to let drunkards drink themselves to death they may do too much economic and social damage in the process. But Society may not with safety propagate or preserve the unfit. Nor let them have a hand in the management of things under the guise of democracy. Nor may it safely try to nullify the human motive of self interest, which springs from the law of the survival of the fittest, no matter how repugnant to the spirit of idealism that may be. The Earl of Birkenhead in a powerful address before the Institute of Politics at Williamstown, Aug. 25, 1923, pointed out how idealism had failed to solve the economic and social problems resulting from the Great War. In the following trenchant words he summarized much of what I have been feebly trying to say:

> For the real truth is that while the whole world requires the encouragement and the light of idealism, the whole world would probably not survive if idealism were given a completely free rein. The same simple illuminating if cynical truth applies to that hideous competition in the world by which every individual who does not inherit a fortune is confronted. The great Bentham long since pointed out that the motive spring, and the necessary motive spring, of human endeavor, is self-interest; and he equally pointed out that the consequences would certainly be obscure, and in his judgment would be unfortunate, if every individual began to regulate his or her life not upon his or her own interests but upon some supposed interest of others. And, indeed, a very cautious mind might stagger before such a possibility. No creature in the world—human, animal, or, it might also be added, vegetable—has ever regulated his, her or its life upon a basis such as that under consideration. And when it is considered that the world has already lasted for some millions (or billions) of years, and that countless billions of billions of breathing creatures have inhabited this world in that period, an experience

so unanimous and so entirely unaffected, either by Christianity or by civilization, at least affords to a scientific observer the material for an irresistible generalization.

And long ago, Lord Macaulay said much the same thing in the following words:

Our rulers will best promote the improvement of the nation by strictly confining themselves to their own legitimate duties; by leaving capital to find its most lucrative course, commodities their fair price, industry and intelligence their natural reward, idleness and folly their natural punishment; by maintaining peace, by defending property, by diminishing the price of law, and by observing strict economy in every department of state.

Thus we see biologists, psychologists, historians, philosophers, statesmen, economists and engineers giving the same kind of advice, each from their own angle. The people of the world can not settle their great problems by popular vote, for the reason that they can not understand them. Statesmen ought to act for them and the statesmen themselves ought to obtain the advice of scientists. They must lead the people, not assume to let the people lead them, for the leading would then be in too many directions and all of it blind. Intelligent people of all kinds should aid in the leadership, as indeed they are now trying patriotically to do, as perhaps never before, owing to their appreciation of the gravity of the outlook into the future. The masses of people themselves are praying for such leadership. We are all in the same boat. If it sinks, both rich and poor, strong and weak, will be drowned. Consideration of courses must be with the head. Emotional appeals to the heart may induce a people to unite in a decision to go to war, or to make peace, but they can not solve economic problems. They are most apt to stimulate erroneous, misguiding thoughts. The relatively few communists that we have among us

are dangerous persons, but we know them to be such, although we may not always know just what mischief they are doing. Even more dangerous, owing to their not being recognized as such, are our emotional idealists, philanthropologists and sociologists, who take the part of what they are pleased to regard as the underman in ways that do credit to their hearts but not to their heads.

The relation among capital, labor, and management or brains, has been compared to that of the supports of a three leg stool. If any one of the legs be missing the stool can not stand. This is indeed a good illustration, but I am going to offer another one as more aptly describing things at the present time as they look to me.

The people of this country are all in the same boat. Imagine one like a galley of old, with a gangway down the center and the rowers on benches on either side. Capitalists row on one side and laborers on the other. Once they pulled in unison and the boat was kept on fairly even keel. There has been a great storm, during which the captain—the principle of authority—has been washed overboard. The laborers, rowing on one side, have acquired more weight and have tipped the boat toward their side, so that the gunwale is nearly awash and the craft is in danger of sinking, the weather being still foul and the sea running high. Management, as coxswain in the stern, has great difficulty in steering the boat and keeping it afloat. A passenger, a socialist, jostles his elbow on one side, loudly voicing his superior ability to run things and trying persistently to take the helm from the experienced hands. Another passenger, a philanthropologist, pokes the coxswain's elbow from the other side, while he emotionally begs him to spare

the poor laborers, urging that they are sweating profusely, that they are being made to row too hard.

Indeed, those rowers are disposed to be mutinous. So also are some on the capitalist side, who have the appearance of farmers. The overseers—with the mien of politicians—with whips in hand walk up and down the gangway, listening to the disgruntled ones and themselves assuming a threatening attitude toward the coxswain. The other capitalist rowers, long since whipped into submission for their misdeeds, real or fancied, are dispirited and silent. Under the foredeck a communist, to whom no one is giving attention, is boring with an auger through the plank of the boat, covertly planning to rob everybody during their confusion as the boat sinks. Will the communist be apprehended and checked? Will a new principle of authority arrive to take command? Will management be able to keep the boat afloat? These are questions that the future alone will answer.

CHAPTER XIII

THE NEED FOR LEADERSHIP

I have tried to make it clear in these studies that the people of the United States are living in a state of economic unbalance, first as between property and management on the one hand and wage-earning labor on the other; and secondly among wage-earners themselves. This is producing a reduction in personal efficiency and at the same time an extravagance in living, which is largely at the expense of the national principal itself. So long as these conditions prevail we shall be in a situation of economic instability. While there may be temporarily some advantage in this to certain groups of workers at the expense of the owners of capital and of other groups of workers, it is certain that the workers themselves as a whole will in the long run suffer the most injury from restricted production and maldivision of it.

Now, I do not ascribe blame upon anybody for deliberately bringing about and seeking to perpetuate bad conditions. They are the natural consequences of the upheaval of the war and of human nature as it is constituted, and just as their development has been inevitable so will be their correction. The great question is whether the correction can be instituted short of ruin, so that it may be completed in 20 years, let us say; or whether the evils will go so far as to produce a downfall from which the recovery may be a

matter of centuries as was the experience after the wreck of earlier civilizations. The fortunate few who exult in their temporary well-being and the unfortunate millions who bewail their present misery are equally ignorant of what is really happening and whither things are trending. They can not even grasp the facts and the logical deductions from them when they are informed respecting them. Salvation depends therefore upon intelligence undertaking to lead the way and persuading the masses to defer to it before dire necessity imposes its irresistible constraint.

The most conspicuous states of mind among the classes of people of the United States at the present time is expressed in the phrase "Discontent among the farmers," and the declared intention of labor to "hold its own." In the words of an eminent political newspaper correspondent, recently making a survey of sentiment in the corn-growing states.

> The farmers are sullen, and grow more so every day. If you should ask of a hundred farmers the reason for their discontent, they would all answer in practically the same words: "Low prices for what we have to sell; high prices for what we have to buy."

What is characterized as being a radical, "almost bolshevist," movement was rampant in Iowa. Anyone who has read my writings is aware that socialism and bolshevism are anathema to me, but we all know that the farmers are not socialistic by instinct or nature, although now and then they allow socialistic experiments to be foisted upon them, as in North Dakota. I find, however, that one of the present exponents of radicalism in Iowa is against high taxes, against the ship subsidy project and against the conditions that make for high railway rates. If this be radicalism,

and if conservatism means high tariffs, ship subsidies and all the other economic evils that are being perpetrated, I am in favor of such "radicalism."

The Iowa exponent denounced the policy of general deflation, but that is not surprising. Whenever the farmer becomes the victim of low prices for his products and high prices for the things he must buy, and moreover is bothered by his debts, his mind becomes financial, and he begins to think in terms of cheap money. Like the average man, floundering amidst the intricacies of economics and finance, his thoughts, if they be not completely vague, turn around among all kinds of erroneous ideas and rank heresies.

In the industrial parts of the country, there is a high degree of satisfaction and the enjoyment of luxuries including the luxury of leisure, and especially has this been so since the settlement of the strikes of 1922, although Samuel Gompers writes that "Labor has repeatedly made the charge that there exists a conspiracy to destroy the trade union movement." Intelligent people know that Mr. Gompers is talking merely for effect, and that there is in fact no such concerted movement, although there ought to be. In the meanwhile, we read in the newspapers items like the following:

> Leslie L. Lanker, of Summerville, Pa., drew $247 in pay for 11 days work as miner in the pits of the Oak Valley Coal Co. He worked a regular eight-hour shift and was paid at the rate of $1 per ton of coal loaded.
>
> Mike Rancher, who works in a coal mine at Rockwood, Pa., Friday drew $291.45 for two weeks' work, eight hours each day.

It appears that Lanker averaged about 22.5 tons of coal per eight hours or 2.8 tons per hour—Rancher did a little better—24.3 ton per eight hours, or about

three tons per hour. Each of them did an honest days' work, but nothing extraordinary in so far as physical capacity is concerned.

It was one of the same class of workers as Mr. Lanker and Mr. Rancher who was addressed by a newspaper correspondent when in the act of buying a new, expensive automobile, and being congratulated upon his prosperity and being interrogated about his unfortunate, or fortunate, obligation to pay income tax, replied contemptuously: "What ya givin' me? I don't pay no income tax. I'm a workin' man, I am."

Among the pictures that we can see in this kaleidoscope there are others. I have heard working people in New England deploring that they must now pay $20 per ton for anthracite coal, shivering as they talk about it, for the New England winters are cold, and there was the implication that there would not be very much coal coming to these people at that price.

Such little pictures, which after all illustrate just what the people are talking about, are translatable into economic language and into revelations of the factors that are operating beneath the surface, and that ought to be understood.

The Western farmer gets but low prices, even lower than the pre-war, for his products, owing to the impoverishment of Europe, that curtails the demand for his exportable surplus, which demand makes the market. No tariff on agricultural products and no political formula can alter this condition.

On the other hand, the things that he has to buy are high, at least 1.7 times the pre-war, because town labor, including the railway workers, has been able so far to maintain greatly enhanced wages, refusing to partici-

pate in the deflation that inevitably overtook the farmers and other people, and will in the end enforce itself upon all labor, willy-nilly.

When the farmer ships a carload of hogs to Chicago and finds that the produce of his hard work, which knows no eight-hour day, has vanished into nothingness, it is not the railway companies and the packing companies that have appropriated it, but it is the railway men and every other class of laboring man who has participated in the transportation, manufacturing and distribution of the food products, right down the line to the ultimate consumer.

Similarly, when the farmer buys his clothing at 1.7 times the pre-war price, probably for shoddy goods at that—and when the New England scrubwoman has to pay at the rate of $20 per ton for half a ton of anthracite—it is not the woolen manufacturer nor the anthracite coal-mining company that extort the price, but it is the miners and mill men, and again the railway men, the carters and all others who have to do with the handling of the goods.

For this situation also there is no political panacea. The thoughts of the Western farmers turning erroneously to money jugglery dwell moreover upon new governmental activities, such as more regulation and even renewed operation of the railways. Those would be the worst things that could happen, as Mr. McAdoo showed us thoroughly.

The aristocrats of labor, having come into possession of an undue part of the produce of the farmers and other people, buy profusely of automobiles and exercise a great deal of choice about their work, refusing to do anything but what is agreeable and being able to have

their way by virtue of getting enough wherewith to live out of relatively little work.

All of this means simply the hogging by comparatively few people of an unduly large share of a diminished national production. In other words, it is unbalanced distribution of the produce of industry. This can not continue indefinitely unless the American people have discovered a way of making something out of nothing. The charlatans who are now talking to the farmers do so in words that are capable of translation into the representation that such a discovery has been made and the farmers are beguiled into believing them. Of course, the governmental operation of railways and other services, the erection of tariff barriers, the blowing of credit bubbles, etc., mean nothing else, for none of those things contributes to increased production, which can only be accomplished by hard work, invention, good management, and thrift. Dissension between the agricultural workers and the town workers, as we see it now, was bound to come.

I think that the United States is about the last country in the world where socialism and communism can make headway, although there are plenty of propagandists for those terrible things who (generally for selfish purposes) aim to promote them and play upon the ignorant. However, Americans are too individualistic and too capitalistic, by great majority, to get into either of those boats. The only real danger is in letting themselves be guided into quagmires and letting silly experiments be tried upon them by charlatans and disingenuous prophets.

I feel great sympathy with the discontent that prevails. I look upon the confusion in minds as being

very human. Radicalism in the United States means to me dissatisfaction with the state of affairs and ignorant, foolish gropings to make things better. Conservatism seems to mean the avoiding of some foolish things and the perpetration of others conceived as panaceas. Coxey is the prototype of the leadership of one party; old Doctor Swamproot of the other. The people, in their pre-election discussions of 1922 expressed their helpless recognition of the futility of the politicians and their grudge against the politicians of all types who ought to have led them and did not.

The country is hungry for strong, sound leadership, of the kind that has no selfish thought for offices, party power, or the next election—leadership that has the knowledge to understand conditions and the courage to tell things truly, no matter how unpalatable they may be. Such leadership would teach that the war did not add to our national wealth, but that it produced great dislocations among our economic conditions and great unbalance in the distribution of the produce of our industry. The old balance must be restored as nearly and as swiftly as possible. Deflation, instead of a thing to be resented, should be speeded along. The farmer, having suffered this first, can not be helped by anybody blowing bubbles, but he can be helped by deflating labor generally. Wall Street, meaning collective business, has no interest except to see everybody, farmers and labor alike, prosperous so that there will be goods to be bought and sold and freight to be carried. It is town labor that stands in the way of farmers and white-collar classes alike. If governmental agencies are an obstacle to labor deflation abolish them. Appeal not to the government for any

further regulation of business for the hand of the government is the touch of death. On the contrary, curtail the government's own activities—not merely the Federal but also the state, county and municipal managements—and thus reduce taxes, which are being abated but little, if any at all, and *ipso facto* are opposing deflation. We may need many public improvements, but ought to forego them if we can not afford them. We must help Europe and must buy goods from her in order to sell to her.

These are some of the truths that real leaders would preach, but above everything else they would proclaim that the war did not do anything to raise permanently our scale of living, that the entrance of some people upon the enjoyment of such luxuries as never before was paid for by the patriotic by mortgaging their principal, and that the present is a time that calls for hard work in production, economy in living, and thrift in saving. It is leadership along these lines, and these only, that will remove the present discontent and promote the general welfare. If anybody should not like it—and the labor unions will not—the sooner they be brushed away, without any further catering to them, the better it will be.

Collapse of the principle of authority and absence of leadership spell chaos. Self-seeking politicians, wilfully acting in groups, are unable to accomplish anything for the welfare of their people. The whole system of popular government breaks down and eventually the people in their despair welcome the advent of a dictatorship, which can at least do something. Thus we see in Continental Europe five years after the end of the war that was represented as being fought to make

the world safe for democracy, the downfall of attempts at popular government and the substitution of tyrannies in many countries. Such is not an outcome to arouse enthusiasm, for there is too much risk in it. Blessed may be the country that falls under a benign dictatorship like that of Mussolini and cursed is that which suffers the malign despotism of a Lenin.

CHAPTER XIV

MISCELLANEOUS

Although the needs for more will to work, more will to save, and the removal of economic restrictions are clearly indicated, there is no reason to suppose that these will quickly become appreciated. Rather is it to be expected that we shall continue with the policies that we are now pursuing, trying to live within a wall of our own, disregardful of the rest of the world. Ours is a rich country, which affords out of its own products most of the things that are needful. Of raw materials we have to import but little outside of tea, coffee, rubber, tin, hemp, flax and sugar. We can maintain a high degree of activity among ourselves without giving great attention to our foreign trade, although such neglect will be irksome to our producers of copper, cotton, wheat, meat and petroleum, which we must export.

We can maintain high wages among ourselves, with a great deal of irregularity and consequently class discontent. Every now and then we shall lose an industry, while others may become crippled. Thus tin smelting has been abandoned during the last year for the reason that the high costs could no longer be economically withstood. Our great copper producing industry is switching to South America. It will be only another step for copper manufacturing to take root there, where labor conditions are more favorable

than with us. Our farmers will more and more abandon agriculture and migrate to the towns. In short we shall be consigning ourselves to a destiny of dry rot.

The wall that we have erected around us will indeed serve for a while to support a high level of prices and wages in this country, but in the long run it can not do so; for as our business will constantly be diminishing while population will be increasing the internal competition will eventually afford the correctives. There can be no real and enduring prosperity for us until and unless the normal international trade relations, which express the great international division of labor, be reestablished. The competition of Europe should be welcomed, not feared.

. . .

Judge Gary in his address to the stockholders of the U. S. Steel Corporation at their annual meeting in 1923 blamed the present immigration law for much of the existing labor difficulty, and his words were taken under consideration in cabinet meetings in Washington. Secretary Davis in a report to the President expressed the opinion that opening the gates of immigration and flooding the country with new workers would "bring prosperity to an end." Here we have one view of what makes "prosperity," *viz.* general employment and rising wages. Superficially this is a meritorious idea, and fundamentally it would be sound if rising wages meant the general production of more goods. Under the existing conditions, however, this thought, no doubt innocently, includes a great deal that is cruel and shameless. The rising wages, of which so many are boastful, are at the direct expense of the farmers,

who have no way of boosting their prices, and at the expense of the humbler among the town dwellers.

Judge Gary also stated that the U. S. Steel Corporation has added at least one billion dollars to the value of its property since it began business and expressed the hope that sooner or later the stockholders of the company would get some extra benefit as the result of this growth. The U. S. Steel Corporation is paying practically the same dividends as at the time of organization, although from 1902 to 1909, inclusive, the dividends on the common stock were smaller than at present and were omitted entirely in 1904 and 1905, but with the exception of 1914 and 1915, the company has not in any year paid less than 5 per cent on the common stock. It may be said that the stockholders are receiving practically the same return as at the time of organization, whereas the average wage per employee has increased from $717 in 1902 to $2,173 in 1920 and in 1922 was about $1500.

A consideration of these figures may inspire some thoughts respecting the share of labor in the produce of industry and also respecting the subject of corporate surpluses, which excites so much indignation in some quarters. It is time for someone to say a word in behalf of the corporations. The experience of the Steel Corporation is merely illustrative of the broad fact that during the whole period of war profits, so to speak, the dividends of the corporations of the country in the aggregate, were but little increased, surplus earnings having gone mainly into plant extensions, inventories, etc., which in large part accrued to the benefit of the workers and which in large part were subsequently lost during the deflation. Even where losses have not

been actually written off, surpluses exist largely in the form of plant, for which there is no immediate use, and there is moreover the prospect that a great deal of it will become valueless.

. . .

In economics, politics and sociology, publicists use a good many words and compose a good many phrases that sound well and undoubtedly make an emotional impression, without anybody, including the enunciators themselves, giving any consideration to their meaning. There was recently discussion respecting the president of an old New England college, whose "radical views" aroused dissatisfaction. It was alleged among other things that this president had brought to this college "a group of young and brilliant professors whose views were regarded by many as being too radical." Especially was this noticeable in the department of economics "where pressure is put upon the professors to be conservative and even to deny their proved knowledge." I am quoting from a newspaper article which spoke about "proved knowledge." How there can be knowledge that is not proved I do not know, although I am mindful of the saying of Josh Billings that the trouble with a good many persons is that they know so many things "that ain't so."

There are many words and phrases that are bandied about in a careless way. Progressives and progressivism. Radicals and radicalism. Liberals and liberalism. Capitalism. Idealism. The dark forces of reaction. The New Freedom. Making the world safe for democracy. These are only a few.

Senator La Follette on July 2, 1923, outlined the program of the Progressive Group in the Sixty-eighth

Congress as follows: "The progressives in the next Congress propose to reduce the ruinous existing freight rates; to reduce the burden of taxation on the common people—the consumers; to enact and enforce absolute publicity of all income tax returns and stop dishonest tax dodging by trusts and millionaires; to deal firmly with the monopolies in oil, coal, steel, lumber, sugar, meats, and other necessaries of life; to call the gambling organizations to account and insure fair prices in grain and other farm products; and to mete out merited punishment to the profiteers and grafters."

The terms "progressive" and "progressivism" imply a forward movement for human betterment. Conversely the reactionary is understood to be one who does not want to have things improved, but desires to revert to the bad state of affairs formerly prevailing. Than such conceptions nothing could be more foolish. Neither of them may be what is commonly thought. Rather may they be very far from it.

I do not suppose that there is any intelligent person who does not want to improve everything from the general state of human welfare down to the organization of his own business. The greatest progress makers that I know have been men whom the "progressives" call "reactionaries." If two men are travelling an unchartered road and in their ignorance have taken a course that soon proves to be dangerous, the nick-named reactionary says "Let us retrace our steps to the main road and then move on again," but the soi-disant progressive says "Not so. Let us keep right on in the dark, through the quagmires and quicksands, and perhaps after a while we shall find good going again."

The program of the progressives as outlined by Senator La Follette promises a reduction in freight rates by skinning the owners of railway property; a reduction from the burden of taxation on the common people by soaking the rich some more. Nobody of economic intelligence knows of any monopolies in oil, coal, steel, lumber, sugar, meats and other necessaries of life. The idea of dealing firmly with supposititious monopolies implies further harassing of people who are trying to produce. The insurance of fair prices for grain and other farm products is reminiscent of price fixing in the days of the war and implies some kind of a defiance to the law of supply and demand. There is nothing progressive in any of these thoughts except progressiveness toward economic bedevilment.

. . .

There is much popular confusion on the subject of money, or funds, credit and capital. We say, sometimes, that money is dear, which means that it is not in abundant supply, and carelessly assume that therefore the nation is poor; or we may hear that money is easy, *i.e.*, that it is in liberal supply, and infer therefrom that the nation is rich. The truth may be the opposite of each of these deductions. The immediate supply of loanable funds is indeed a matter of great importance, but before any economic interpretation of that condition be made it is essential to examine the sources of those funds.

Underlying everything is wealth, which in the economic sense is physical property, either in the form of land, buildings, railways, machinery, etc., and stocks of commodities. A relatively small element of wealth is the physical property that we know as gold.

The definition of the wealth may be extended so as to include some non-physical, intangible things, such as organization, good-will, patent rights and even mere knowledge.

All wealth is not capital, which is only that part of wealth that is devoted to the production of more wealth. Thus, the parks of our cities are wealth, but are not capital. Railways are capital. Both municipal parks and railways are wealth, but neither of them is money, or funds. Gold is wealth, capital and money and is the only thing corresponding with those three descriptions. Although it is an enormously important factor in economics it constitutes but a small proportion of the world's wealth. The physical wealth of the United States is about 275 billion dollars in terms of values of 1913, but it comprises only about three billions of gold, or a little more than one per cent. The total gold of the world is only a little more than 10 billion dollars.

Capital assumes two general forms, *viz.* fixed and liquid. The former comprises those creations that can be used only for the purpose intended, such as railways and factories. The latter comprises the stocks of goods, together with gold, which may be employed for any desired purpose in the production of new wealth. The liquid capital is always the smaller proportion of the total. In the United States, for example, I have estimated it to be in recent years no more than 10 per cent of the total wealth.

Credit is different from either capital or funds. It is based on wealth and may be considered as a translation of wealth into working capital. Theoretically it ought to bear a relation to wealth, or rather its extension should be limited by some relation to wealth.

But the market value of wealth, or of real capital, expressed in current prices, may rise or fall so greatly within a short time that there may be extraordinary increases or decreases in credit facilities producing illusions and consequences that lead to painful corrections, particularly when there is the fictitious appearance of increased capital that is really only a development of over-expanded credit.

The market value of the stock of a corporation may change greatly without there being any change in either the physical or the intangible wealth that it represents. Nevertheless in rising it may become the basis for more credit, while in falling it entails a contraction of credit. It is precisely such conditions that lead to pyramiding and liquidation in the stock market. The same conditions obtain with respect to commodities. In a bull market credit expands and in a bear market it contracts, without there being any corresponding expansion or contraction of wealth. Credit is therefore a different thing from wealth, although it is founded on wealth.

. . .

I do not suppose that any socialistic economists would deliberately propose reversion for the people to a lower scale of civilization. I am not so sure as to the unwillingness of the people themselves to decline. Dr. Lothrop Stoddard in his recently published "Revolt Against Civilization" draws attention to the mental strain that modern conditions have imposed upon masses of people who are incapable of living up to them, and indicates a willingness on their part to go backward as the easier way. This is not the idea of the intellectual socialists, however. To their fatuous minds the

common-sense talk that is based on experience is simply evidence of the capitalistic desire to recapture the proletariat. They meet the arguments of engineers and administrators with the contention that they themselves would run the railways, factories and mines so much better than the old managements that perhaps it might not be necessary for the respective personnels to work any more than six hours per day. Of course, we know that such talk is foolish. We know what has been the result of the Russian experiment. A great difference between engineers and socialists is that the former act upon the basis of accumulated experience, while the latter refuse to recognize that such is of any value.

. . .

Travellers, senatorial and others, return from Russia with words of quasi-wisdom. The Bolshevik government has found itself and is a wonderfully efficient thing. The people are becoming happy. They are going to export grain. Etc., etc. Others dissent. In truth nobody knows what they are talking about. The daily papers publish the interviews with them, for even the words of an ass may be news. The editors offer neither indorsement nor criticism. It's all the same to them.

We laugh at the foreigner who comes to America, makes a hasty transcontinental trip, and essays to size up our economic position. Egad! We have some trouble in doing that ourselves. What then of the casual traveller in Russia, who knows neither the language nor the mysteries of a strange people? The expert sitting in London or New York, getting many reports and studying data, knows far more.

Russia is in ruins. Its railways are in deplorable condition. Its heavy industries are all but wrecked. There is some production in the light industries, which have passed back into private control. The peasants have things in about their own way. The Bolsheviks have taught them to pay taxes. That's all. The harvest will be better this year than last. Probably there is no danger of famine. But Russia will not be an exporter of grain. Absurd to think it. Well, then, what is going to happen politically and economically? They are much the same thing.

Communism was admittedly a failure. Then was substituted the "new economic policy," or state capitalism. That also is a failure. Even the virile Trotzky says pitifully that private enterprise used to operate industry profitably but the government can not do it. Back to straight capitalism is the next thing. The Bolshevik government is now close to the end of its rope. The reign of terror is ended. Already is the new revolution developing strongly and swiftly. It still lacks coherence, lacks leadership. It does not show on the surface. It is like the sap spreading up through a tree. Some day the new thought will bud over night, just as does a tree in spring. It will seem sudden, but will not be really so. The red government will simply step out and a moderate one will step in. This may be a year hence, may be two years. Who can time such things closely?

What after that? Russia is essentially an agricultural country. We know that such countries can recuperate quickly. Russia is rich in natural resources. It is not unreasonable to expect that within five years after the change of government, barring agricultural

adversities, Russia may become the most prosperous country of continental Europe.

There are many confusing conditions entering into considerations. In the beginning the Bolsheviks stupidly set out to annihilate management, the intelligence of the country, which they associated with capitalism. After slaughtering hundreds of thousands they awoke to the realization that if they kept on with such extinction there would be nobody left to direct industries. It had by that time become appreciated by them that the proletariat and peasantry did not know how and could not learn. It will remain for time to show whether with the recovery from that madness they saved enough of the brains of Russia.

In a country like the United States such a loss would be fatal. It would spell the downfall of our civilization. In a backward, essentially agricultural country like Russia it may not be so serious. In our optimistic forecasts we give expression to that thought. There may be even an important offsetting thing in the knowledge gained by millions of peasants while they were prisoners of war in Germany, who were put mainly to work on the farms and thus had the opportunity to see that steel plows are better than a crooked stick and that iron shod wheels are an improvement upon those of wood alone. Such knowledge has now permeated all through Russia. Life in the army, too, created new desires, such as that for sugar with which the soldiers were supplied, and which they found to taste good. In rejuvenated Russia the people may want to work hard in order to get new things.

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